

TECHNOLOGY DEPT.



The

Manufacturing Confectioner

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DETROIT

ONEER SPECIALIZED PUBLICATION FOR CONFECTIONERY MANUFACTURERS



Chocolate Cooling Tunnels,
Their Design And Operation:
As told by a manufacturer

•

A Package Designer Looks
At The "Nickel" Candy Bar:
And gives his critical comments

•

High Speed Packaging: The vital
problem of keeping pace with
modern continuous production

MARCH
1951

Original contract to be held by buyer. The duplicate to be returned to seller.

CONTRACT New York —

Contract No. — *Sterwin Chemicals, Inc.*
 SUBSIDIARY OF STERLING DRUG INC.
 1450 BROADWAY
 NEW YORK 18, N. Y.

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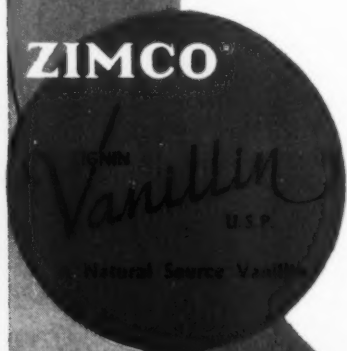
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ASK THE MAN WHO SIGNED ONE

ZIMCO



Consult your
Flavor Supplier

No contracts are made in excess of our capacity to supply, barring strikes, government regulations, etc. Contracts enable us to properly organize and execute production. A Sterwin contract insures your supply of Zimco Vanillin within limits of your actual requirements.

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Shipment made direct from factory, Kew-Forest, Wisconsin

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GOOD LOOK!



Take a good look at

LEMON • LIME • ORANGE

Utilizing new materials developed in our unusual processing of citrus oils, we have developed a series of imitation citrus flavors that are remarkable for imparting superbly natural flavor to finished confections.

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The Manufacturing Confectioner

READ WHEREVER CANDY IS MADE

MARCH

Vol. XXXI

1951

No. 3

EARL R. ALLURED
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TECHNICAL EDITOR
Wesley H. Childs

NEW YORK STAFF WRITER
Clara Baldwin

EASTERN MANAGER
Stanley E. Allured

CIRCULATION DIRECTOR
James W. Allured

ADVERTISING OFFICES

Chicago 6, 9 South Clinton
Allen R. Allured, Franklin 2-6369

New York 18, 303 W. 42nd St.
Stanley E. Allured, Circle 6-6456

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Pioneer Specialized Publication for Confectionery Manufacturers Plant Management, Production methods, Materials, Equipment, Purchasing Sales, Merchandising.

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COVER: Women employees arrange in proper spacing the centers for chocolate-covered cherries, before the centers are given a liquid chocolate coating. Scene from a large factory.

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How to improve a chocolate coating without touching the chocolate!

Sometimes there's more to chocolate than the product itself. Take the case of a large southern candy manufacturer who wanted to improve the "drying time" of his chocolate.

Luckily, before spending thousands of dollars, the manufacturer called in his Walter Baker representative—the right step for anyone faced with a chocolate problem. This resulted in a simple, inexpensive solution . . . speeded-up "drying time" . . . and a superior coating with much longer shelf life.

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Very simply, what happened was this: The Walter Baker broker in this area turned his customer's problem over to Baker's Technical Service Staff. By rechanneling the air supply with tin-plate baffles, the Baker staff again came up with a practical, effective answer.

Because of this service, and because the success of his business depends upon the success of yours, you can always be sure that a Walter Baker chocolate consultant will help you select the right chocolate coating for every candy you make.



Source of the trouble: This Walter Baker Technical Service Man—checking cooling tunnel—discovered that tin-plate baffles, properly placed, would solve the customer's production problems.

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Sales offices in Chicago, Cleveland, Detroit, Los Angeles, New York, Philadelphia. Brokers in all principal cities.

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Popular Cardinet Bars made with California's finest Almonds

Check any candy counter in the eleven Western States and you'll find Baffle Bar* and U-No*, candy masterpieces by Cardinet. Ground almonds sharpen the flavor and accent the quality which has made these 10c bars consistent best-sellers in their Western market. Still another Cardinet creation is the Almond Toffee bar, in limited production, but rated high by those who know good candy.

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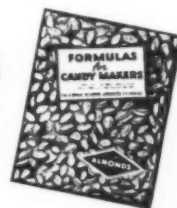


ways toward making and keeping friends.

Let's talk almonds. We're almond specialists, and have been for more than 40 years.

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This helpful booklet brings you 22 formulas for popular almond candies, plus full color photographs of California's leading almond varieties.



CALIFORNIA ALMOND GROWERS EXCHANGE
Sacramento, Calif.
Sales Offices: Chicago and New York

© *Cardinet Candy Company, Inc., Oakland, California

5 Ways You Win with Blue Diamond Almonds

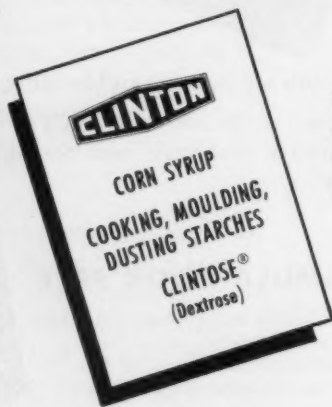
1. They give your product an unmistakable mark of quality in appearance and flavor
2. They help build sales . . . the consumer preference for almonds is long established
3. They offer you assured quality . . . minimum moisture content . . . no foreign particles . . . no fillers
4. They cost you less to handle. Our quality safeguards minimize YOUR handling costs
5. They are available whole, natural or blanched, sliced, halved, split, chopped, or slivered . . . according to your needs

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Tops
**FOR CONFECTIONERS
COAST-TO-COAST**

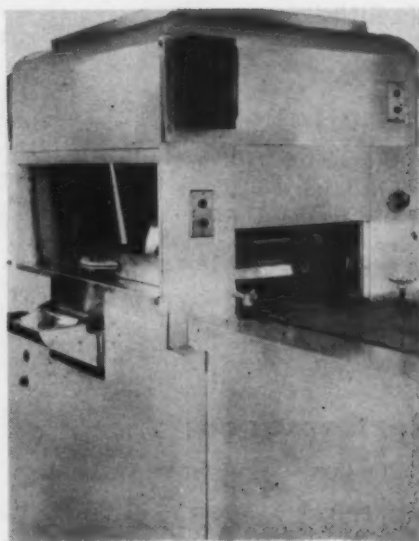
CLINTON FOODS INC.
CLINTON, IOWA



Approved by the New York City Department of Health
BEN-MOORE Stainless Steel Coaters

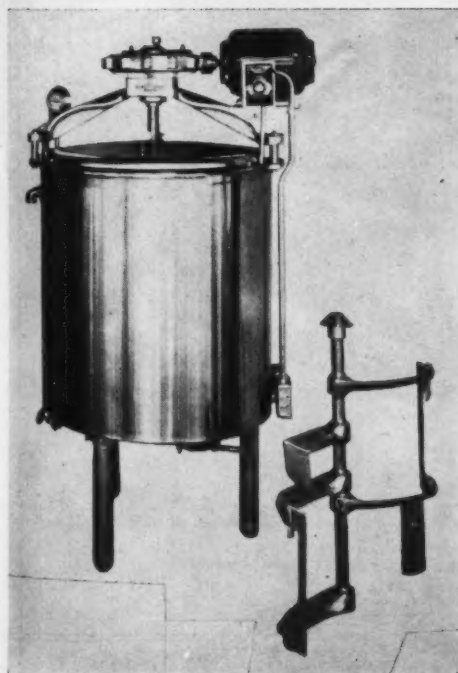


Available in 32", 24", 16", and 10" widths. Special machines engineered for cream and caramel dipping. Candies have to be set on plaques due to the long setting time necessary for these products.



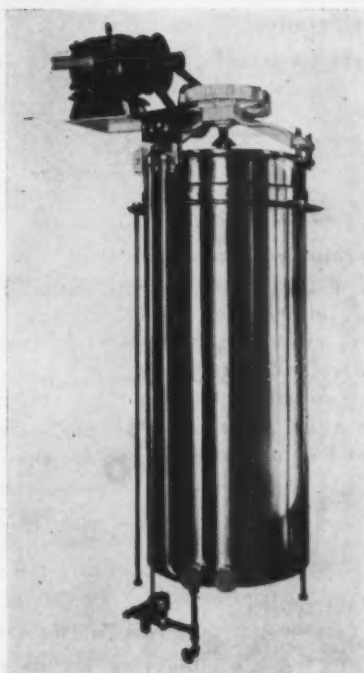
Stainless steel throughout with detachable Plexiglass upper housing. Sides and chocolate pan underneath wire belt are removable. Modern approach to chocolate handling with tempering compartment above machine, using the chocolate flow system.

BEN-MOORE Melting and Tempering Kettles



←
 Stainless steel melting kettles with removable agitators and thermostat control. Complete with motor and drive. Available in all sizes from 200 to 2000 pound capacities.

→
 Stainless steel tempering kettles fabricated for ceiling suspension or with floor stands. Built with maximum heat exchange surface enabling faster tempering. In various sizes up to 2000 pound capacity.



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New York 18, N. Y.

for March, 1951

page 9



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5 ROLL REFINER H.M.S.

Installations

In Successful Operation in Chocolate Plants in the United States and throughout the World—

Performance

A Smoother Chocolate
Refines to the
Greatest Fineness
Ever Obtained
Utmost Uniformity
Maximum, Uninterrupted Output
Greatest Ease of Operation
Perfect Control

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A complete stock of rolls, gears and bearings always on hand and service by an American engineering and manufacturing firm at your command at all times.



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Orders Accepted for Early Delivery
Exclusive Representatives in the United States and Canada

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Known in the Chocolate Industry for over a quarter of a Century as the Manufacturers of the Widely Used Bramley Mill



**DARLING, THAT WONDERFUL
CHOCOLATE COLOR—JUST LIKE
CANDY COATED WITH PARAMOUNT**



These hardened vegetable oil crystals are ideal for coatings. They keep coatings firm even in warm weather. Available in 50 pound cartons.

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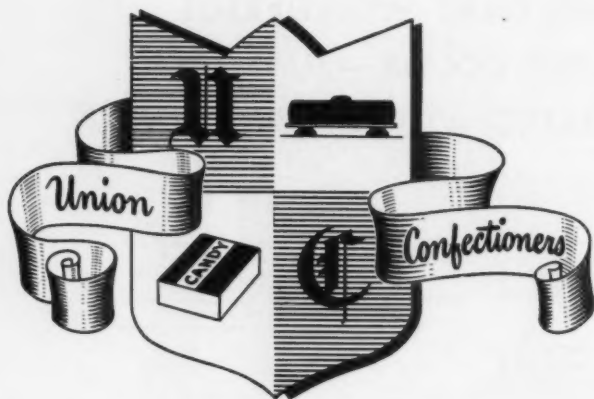
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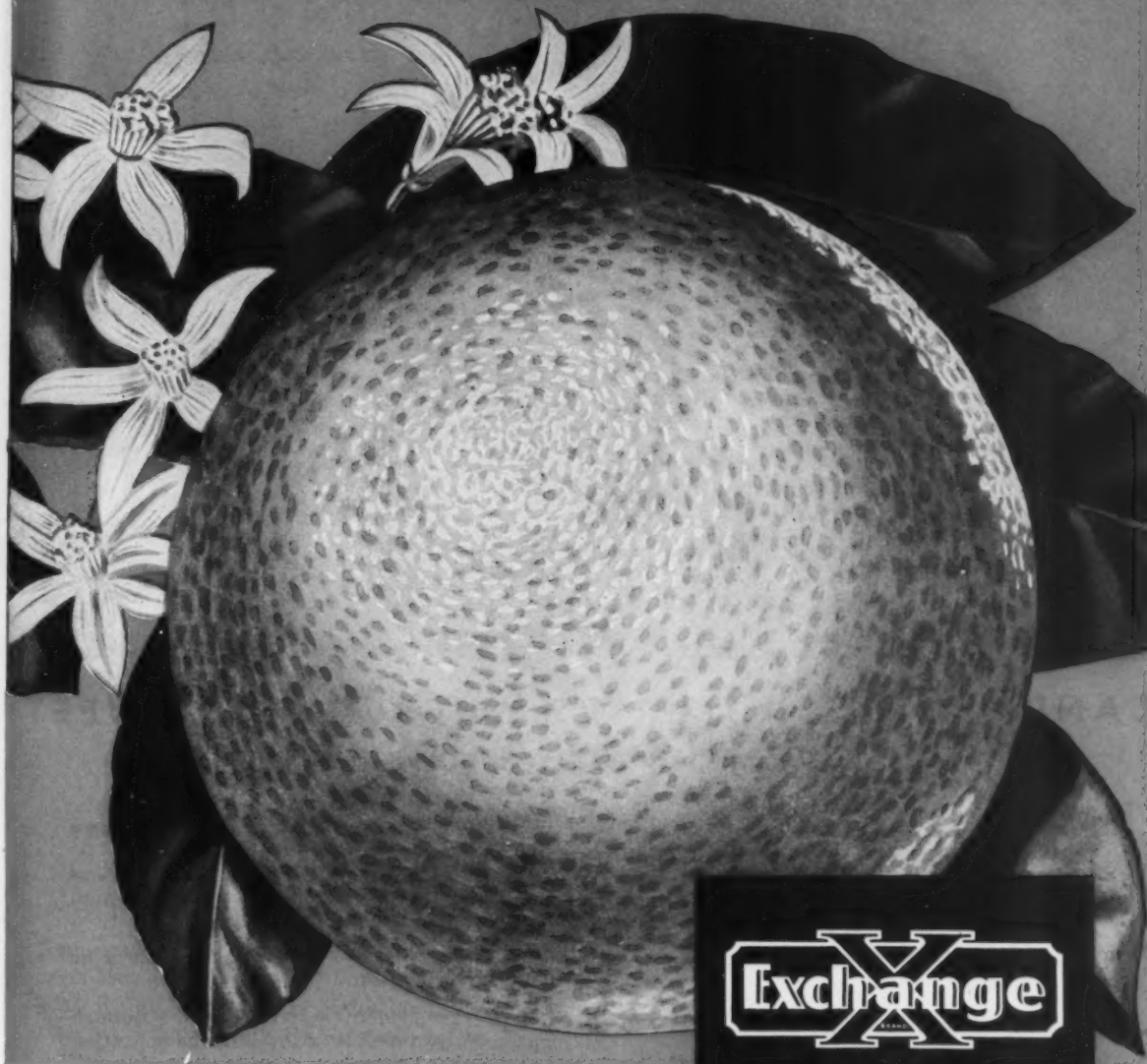
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Plant Superintendent
Huyler's*

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HERE'S THE MODERN FLO-SWEET WAY

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A NEW NAME FOR A NEW LINE,
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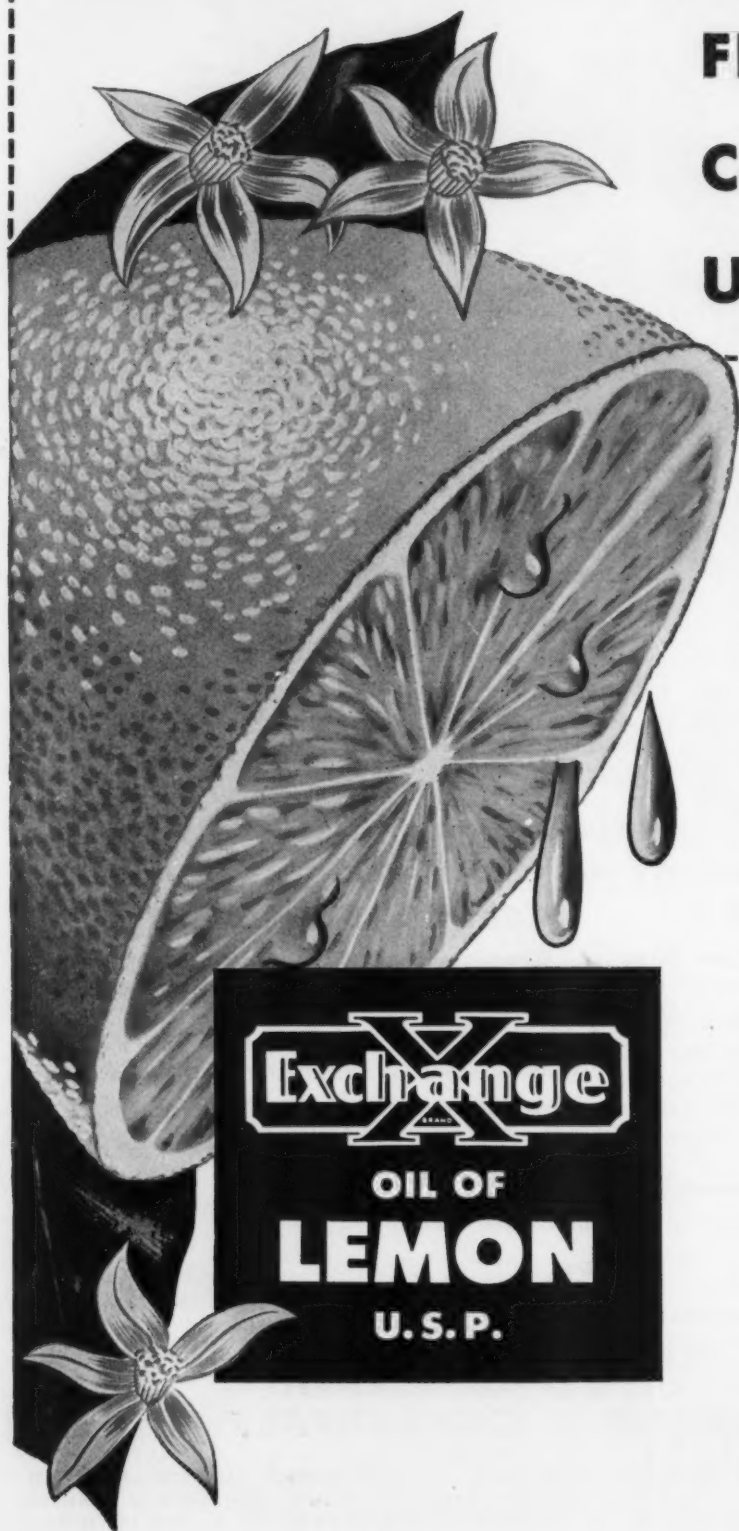
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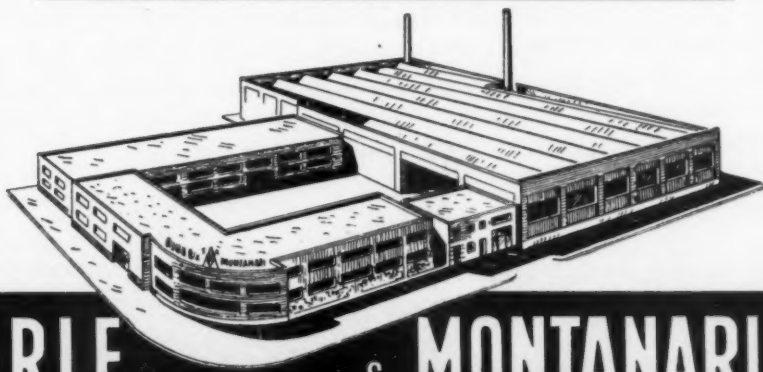
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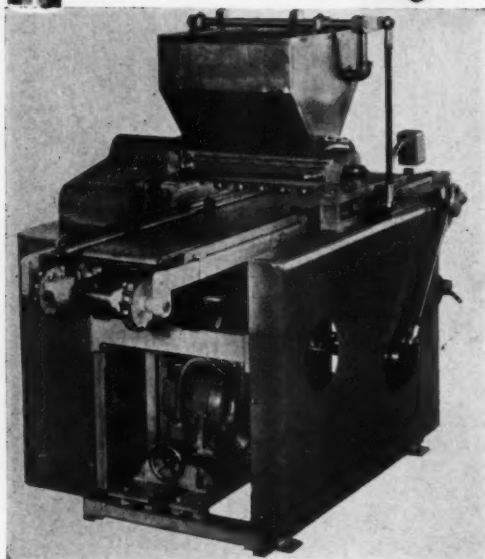
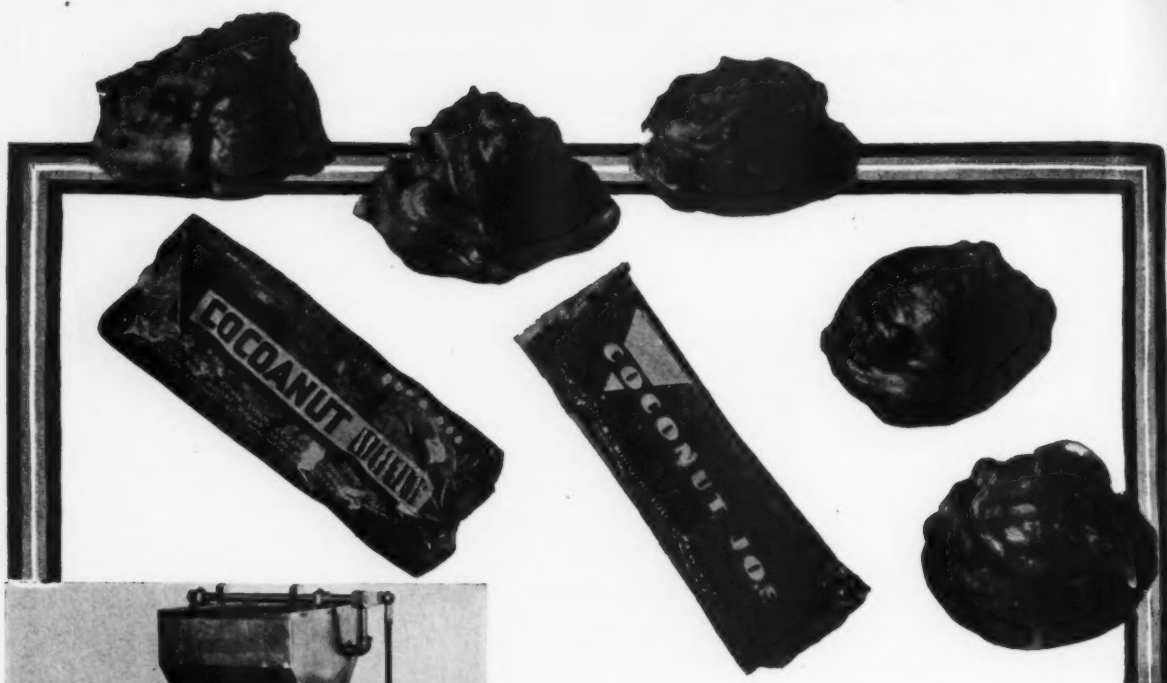
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MILANO - ITALY

USA REPRESENTATIVE: C. A. MASCHERIN—6 West 77th Street, New York 24, N. Y., SCHuyler 4-1305

for March, 1951

page 17



THE RACINE DEPOSITOR

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Make Them Easily • Perfectly • Economically

Can deposit with exacting weights and high production most kinds of Coconut Candies. Larger percentage of long or short shredded coconut can be used as the Racine Depositor operates without pumps, the depositing being done by means of oscillating shafts which cut off coconut shreds.

It costs you nothing to get full details and further particulars. **INQUIRE TODAY.**

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if you want
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Impulse buying,
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But what about the second time...
 and is there a third and fourth
 and tenth time? Candy manufacturers
 know that the over-all success of their
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 It's the flavor and taste that create
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 D&O Flavors have the rare quality
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Again in 1951

the industry's

WHO'S WHO

among Candy Manufacturers

The 1951 CANDY BUYER'S DIRECTORY



*lists manufacturers
of the following goods*

Bar Goods
Bon Bons
Brittles
Butter Creams
Butter Scotch
Candy Canes
Caramels
Chewing Gum
Chips
Chocolates in Bulk
Chocolates (packaged)
Chocolates (molded)
Coconut Goods
Cordials
Corn Candy
Cough Drops
Creams, French
Dragees
Fudge Work
Glaze Candy
Gums and Jellies
Halvah
Hard Candies
Kisses
Licorice
Lozenges
Maple Items
Marshmallows
Marzipan
Nougats
Penny Goods
Ribbon Candy
Seasonal Specialties
Suckers
Taffy
Toffee
Vending Machine Candies

As the only authentic and accurate Directory of the whole-sale manufacturers of candy in this country, this annual publication has gained a wide reputation both within and outside of the industry. Every supplier of raw materials, machinery or packaging supplies usable in confectionery production and sales should have copies for himself and his sales force.

Listed are the commercial candy manufacturers who sell at wholesale, nationally or sectionally, classified according to types of confections manufactured. The classifications have been compiled with the help of the candy companies themselves.

The 1951 Edition of The CANDY BUYERS DIRECTORY will be a profitable addition to the sales kits of all who wish to bring their goods or services to the attention of the confectionery industry.

Order yours now - Only \$2.00 per copy

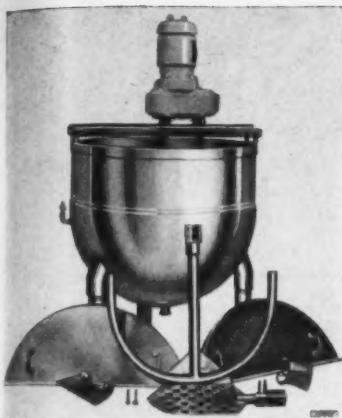
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The CANDY BUYER'S DIRECTORY

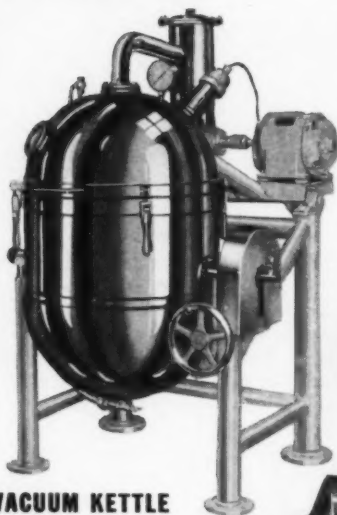
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THE MANUFACTURING CONFECTIONER PUBLISHING CO.

9 South Clinton Street, Chicago 6, Illinois



Model TA
Twin Shaft
AGITATOR



Model
DVA

TILTING VACUUM KETTLE

Model AED—Electric
DOWTHERM
Model AHD—Gas
HI-TEMP.
KETTLES



Model RA
Single Shaft
AGITATOR

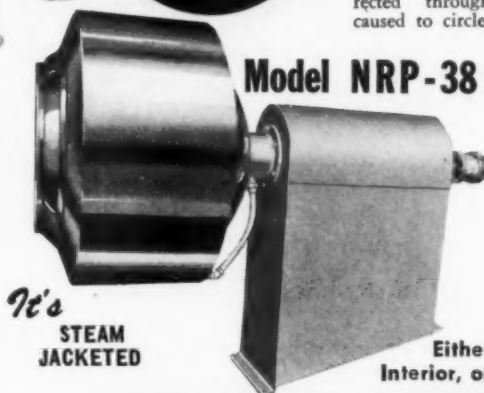
Choose candy plant equipment that is *Outstanding* for its **SANITARY EFFICIENCY**

Many of the country's best known candy brands are processed in the GROEN units illustrated here. That's because this equipment has conclusively demonstrated its high efficiency and completely dependable performance. And that's why the unit you choose from the GROEN Line will meet your most exacting requirements. You'll find it strictly sanitary . . . **COMPLYING WITH THE MOST RIGID HEALTH DEPT. CODES . . .** engineered with precision for the job it is to do . . . thoroughly modern in every sense of the word . . . fit and capable and certain to function to perfection in your production line. So, check with GROEN on your next equipment. Write us today.



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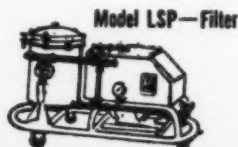
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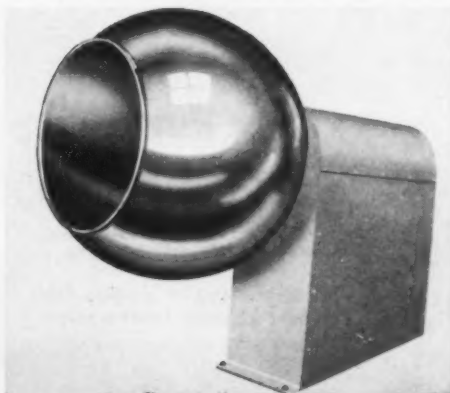
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and

KATHERYN E. LANGWILL

M.S., Ph.D.

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A Digest of

Technical Literature

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Tremendous Nutrition Task Ahead

C. G. King, Chem. & Eng. News, Vol. 29, No. 1 (1951)

—This is a valuable review paper on food nutrition in relationship to national health.

Economics of Chocolate Making

J. Koch, Int. Chocolate Review, Vol. 5, No. 12 (1950)

—Suggestions are given to outline a possible comprehensive system for control of costs in candy factories. The cost of chocolate is largely controlled by raw material cost. Economies in processing by checking on overall wastage are effected.

Control of Cocoa Roasting

J. Koch, Revue Internationale de la Chocolaterie, Vol. 5, No. 11 (1950)

—This article deals with the general theory of roasting which is considered in two phases, (1) developing the cocoa flavor, and (2) eliminating unwanted moisture and acids. Temperature is difficult to assess correctly in high speed operations. An appreciable temperature gradient exists between the surface of the individual bean and the center. A control based on the heat absorbed by the beans shows possibilities.

Byproducts From Milk

Earle O. Whittier and Byron H. Webb, VIII plus 317 pages, 1950. Price \$6.00.

The nonfat portion of milk which contains a unique combination of vitamins, salts and proteins, is of great nutritional value to man. The likelihood of large surpluses of milk in the future will give impetus to the production of marketable foods prepared from milk or its byproducts.

Chapters of especial interest to the confectionery industry are: 1—The Byproducts of Milk, 3—Fermentation Products from Whey, 4—Condensed Products, 5—Dried Products, 7—Bakery Products, 9—Miscellaneous Food Products, containing 15 pages on confections, 10—Casein and Whey Proteins, and 11—Lactose.

The physical and chemical characteristics of skim milk, whey, buttermilk and their components are described in detail.

The detailed list of references given at the end of each chapter should prove of value to the researcher.

The authors are outstanding scientists, both have won the Borden Award administered by the American Chemical Society and the American Dairy Science Ass'n. They are with the USDA in the Bureau of Dairy Industry.

Subscribers will recall B. H. Webb as the author of "Whey—Raw Material for Candy," *THE MANUFACTURING CONFECTIONER*, Vol. 21, No. 3 (1941).

This reviewer has no hesitancy in recommending this book for the consideration of technologists endeavoring to improve confectionery.

—W. H. C.

THE Standard



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for March, 1951

Chocolate Cooling Tunnels

Their Design and Operation

by FRED W. GREER
ROLAND E. HILL
J. W. Greer Company

THE proper cooling of chocolate coated products involves more than simply passing them through a cooling tunnel—more than simply removing the heat from the chocolate. The manner in which the heat is removed is all important. If it is removed properly, then the chocolates will have a high gloss, a good “snap”, and a long shelf-life. If improperly removed, the glass, if any, will not last; the texture will be grainy, and they will probably “bloom” and have a very short shelf-life.

Without a clear understanding of the peculiar properties of chocolate and the problems involved in handling it, it is difficult to intelligently discuss the design and operation of cooling tunnels. It is not necessary to go into great detail about chocolate but the following basic information on its composition and physical properties will be helpful.

One of the main ingredients in chocolate is cocoa butter. It is the substance which makes it difficult to produce satisfactory chocolate coated products. Cocoa butter is not a simple fat. It is a complex mixture of many fats, technically known as glycerides. As cocoa butter is a complex mixture it does not have one definite melting point or one definite solidification point. It has several of each, so has a definite tendency toward “super cooling” (ability to be cooled below the melting point without complete crystallization). It crystallizes in successive steps. As each fat crystallizes it gives up its latent heat. It can be seen, therefore, that the cooling of chocolate requires not only the removing of the “sensible” heat*, but also the latent heat** of crystallization.

It has been shown that the fats in cocoa butter have a “double melting point”. This means that the fat when

suddenly cooled and solidified upon melting again first melts at a specific temperature, then resolidifies and melts once more at a higher temperature. This phenomenon undoubtedly makes it possible for there to be staple and unstaple forms of chocolate. Chocolate in the stable form has a hard “snap”, good gloss, and a long shelf-life. Unstable chocolate is grainy, soft, dull, or has “bloom” and has a very short shelf-life.

There has been considerable research on the handling of chocolate, including the proper cooling of same, and consequently we have some very practical information on the subject.

One researcher states, “It has been quite clearly demonstrated that molten chocolate sets up in three principal stages; namely, (1) the tempering or first cooling stage where the seed crystals are introduced, (2) the solidification stage (coating and partial solidification in the cooling tunnel), (3) the storage or holding stage.

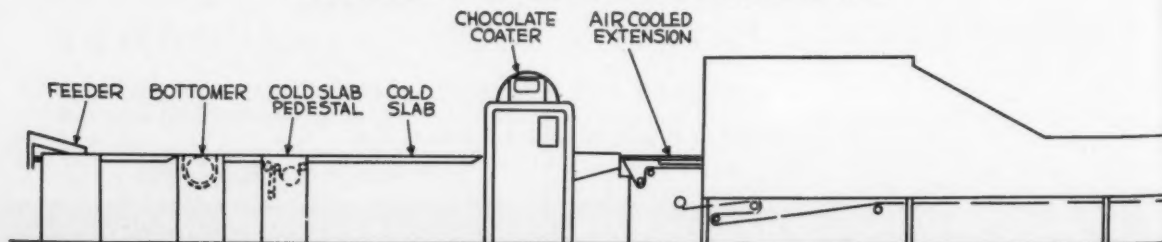
It has been proven despite popular thought that in the tempering stage crystallization rarely exceeds 3%, and that mainly in this stage little more than the sensible heat is removed from the chocolate.”

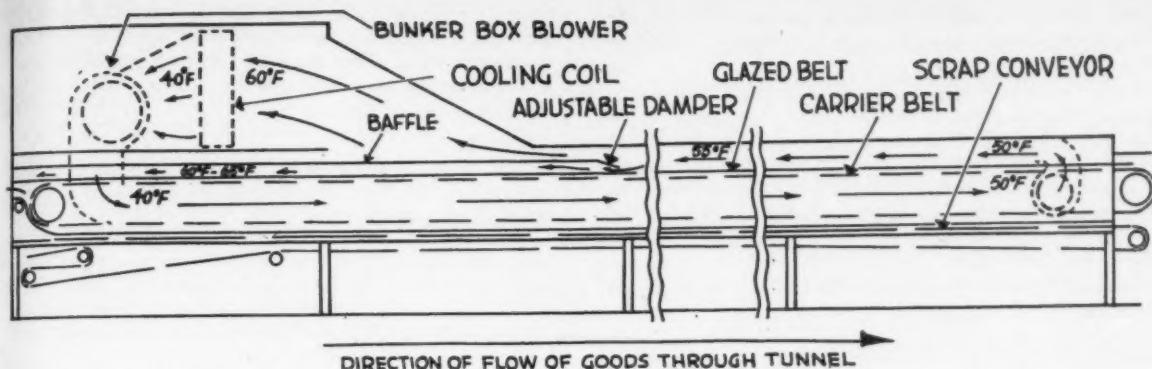
“During the second stage of the process,” he further states, “Most of the latent heat of crystallization is evolved and this heat must be promptly and efficiently removed in order to obtain a stable crystalline structure, good gloss, and satisfactory shelf-life stability. It is very important upon enrobing the properly tempered choco-

*Sensible heat is heat which is associated with a change in temperature without a change in state, or is that form of energy which removed from or added to a substance results in a change of temperature only (such as the cooling of water from 100° F to 50° F).

**Latent heat is heat which is associated with a change of state without a change of temperature, or is that form of energy which removed or added to a substance results in a change of state only (such as the freezing of water at 32° F).

DIAGRAMMATIC ARRANGEMENT OF COOLING TUNNEL
Including Location of Other Equipment in Typical Chocolate Coating Line





late in which a highly sensitive condition of incipient crystallization is present to avoid any tendency toward a too rapid solidification of the mass (super cooling)."

Due to the complex physical properties of chocolate, as briefly described above, it is apparent that the melting, tempering, coating, and cooling processes must be carefully carried out in order to obtain satisfactory results.

Chocolate cooling tunnels have been in general use for the last twenty-five or thirty years. Before their advent, chocolates were usually cooled on "plaques" (small sheets of glazed paper varying in size from approximately 12" square up to perhaps 16" wide and 36" long) placed on wooden trays and stacked.

It has been only in recent years that sufficient accurate information has been gathered on chocolate to enable cooling tunnels to be designed along scientific lines. Most of the original cooling tunnels, and in fact most tunnels in use today, are simply long boxes through which a glazed conveyor belt travels and cold air is blown through with no exact control of temperature, velocity, or humidity. Needless to say, with these, desired results are impossible.

It has been quite conclusively proven that for ideal cooling of chocolate coated goods they should first be cooled at a relatively warm temperature until the chocolate has crystallized to an almost solid congealed state forming a dense network of stable crystalline fat upon which a subsequent orderly deposit of the remaining liquid fat can be made. The completion of the setting up or crystallization (up to 90%) with sufficient removal of the latent heat of crystallization is done at a relatively cold temperature (approximately 50°F). Final crystallization is completed by storage in a properly cooled room.

Other available data shows that on enrobing, crystallization is only of the order of 0 to 3%. At approximately one-half way through the cooling tunnel, crystallization is about 50% completed. At the discharge end of the cooling tunnel, crystallization is approximately 90% completed; and the final crystallization 90 to 100% takes place in the storage room usually over quite an extended period of time. The crystallization is extremely rapid at first, then proceeds more slowly until it is completed.

There are many tunnels now in use utilizing the above principle and their design is basically as shown in the following sketch.

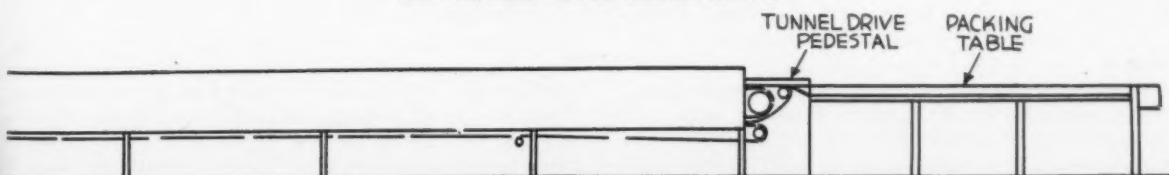
Note that the tunnel is divided by the conveying belt and a baffle into three distinct zones. The first zone, approximately one-quarter to one-third of the total length of the cooling tunnel, is kept at a relatively warm temperature, preferably 60 to 68°F, with a slowly moving counter flow current of air so directed that efficient heat transfer results. In this zone there is formed the dense network of stable crystalline fat upon which the crystallization of the remaining liquid fat is accomplished. It also eliminates the possibility of "super cooling" or sub-chilling of the coated chocolates.

The second section of the tunnel, approximately two-thirds or three-quarters of the length, is cooled by a higher velocity current stream of cold air which should enter the discharge end of this zone at approximately 50° and then gradually rise in temperature as it flows over the chocolates toward the warmer end. In this zone the remaining liquid fat is crystallized into a hard dense mass and the latent heat of crystallization is removed. As the rate of crystallization is definitely a function of time and temperature, the more slowly this crystallization and solidification progresses under equilibrium conditions, within limits, the better the stability. Therefore, a long tunnel is superior to a short tunnel for this particular reason.

The third zone of the cooling tunnel is that section below the belt conveying the chocolates in which the coldest air is received from the air cooling coil. The proper cooling of the bottoms of the chocolates is very essential and this, of course, can be accomplished more efficiently if the carrier belt which supports and carries the glazed belt on which the chocolates actually rest is made of a good conductor of heat, preferably a metal. (A canvas belt between the glazed belt and the cold air acts as an insulator and thus prevents efficient cooling of the bottoms.)

In practically all of the earlier tunnels, and in fact in many of those still in use, the carrier belt and the glazed belt both return on the outside of the cooling tunnel. This means that these belts usually rise in temperature and thus retard cooling of the bottoms of the

SEE ENLARGED TUNNEL SECTION ABOVE.



freshly coated chocolates. Both the carrier belt and the glazed belt should return through the cold lower section of the tunnel.

While it is perfectly practical to supply cold air to cooling tunnels from a central supply, the most satisfactory method is to have an individual cooling coil and blowers for circulating the air built into the tunnel. It is generally conceded that blowers are necessary at each end of the tunnel in order to properly balance the flow of air, to control its velocity, and to prevent excessive in-and-out drafts.

The usual practice is to encase the tunnel with insulated encasements, although this is not necessary if the main cooling section of the tunnel is in a cold room. In this case uninsulated enclosures can be used. The outside and inside surfaces of encasements should be smooth and free of cracks, etc., so they can be easily cleaned. Unless the temperature of the room in which the tunnel is located exceeds 70°F, one inch of insulation is sufficient. If the temperature is around 90°F or more, two inches is preferable. Encasements should be easily removable to facilitate cleaning. Sufficient access doors must be provided or inspection of goods when running, and for cleaning and servicing of blowers, motors, bearings, etc. Some manufacturers are cooling their chocolate coated products by simply conveying them through a cold room, the conveying belt not being enclosed at all. While from a sanitation point of view it is easier to clean, this type practically eliminates zone control and consequently any possibility of accurately controlling air velocities, and temperatures.

Very little, if any experimental work or research has been done so far as can be determined with regard to the effect of humidity on the cooling of chocolates. Whether low humidity air (25 to 35%) is better than moderate humidity (35 to 50%), or vice versa, seemingly is not known. It is known, though, that humidities much over 45% are harmful to the chocolates and cause excessive condensation on cooling coils. If cold chocolates come from a tunnel into a packing room with a high humidity (over 50%), moisture will probably condense on them. From what is known, it indicates that the lower the humidity the better.

"How long should a tunnel be?" This question is quite often asked and the answer is usually, "Install one as long as your space permits." Due to the element of time involved in the cooling of chocolates, the longer the tunnel, the higher the speed at which the conveyor belt can be operated, consequently the greater the production. With tunnels much less than 60 ft. in length, it is practically impossible to obtain a high production of properly cooled chocolates. At a ten-foot per minute belt speed, a sixty-foot tunnel will provide only six minutes of cooling time. This is considered much too short for proper cooling. (Twenty minutes or more is the minimum for best results.)

The importance of the bottom cooling of the chocolates is evidenced by the fact that in recent years even the connecting table between the cooling tunnel and the chocolate coating machine has been made of metal and

cold air supplied to it so that the bottoms of the chocolates will begin cooling immediately upon leaving the coating machine. This air cooled connecting table serves a double purpose. It initiates the proper cooling of the bottoms and at the same time prevents "feet" from forming.

The more modern tunnels all have the glazed belt barely emerge from the cooling tunnel at the packing table. It runs a roll or a "knife edge" at the point where the packing table belt meets it. At this point, the chocolates are automatically stripped from the glazed belt onto the packing table belt, thus making it much easier for the packers to handle, and the glazed belt re-enters the tunnel without warming up.

A "scrap" belt running along the bottom of the tunnel is practically a necessity. It serves two purposes—(1) It continually conveys particles of chocolate, etc., which falls off of the glazed belt out of the tunnel and into a scrap pan, and (2) it supports and conveys the glazed belt on its return run, thus eliminating much of the strain of this belt. Consequently, the "life" of the glazed belt is lengthened considerably.

Once it is adjusted for a given set of cooling conditions, the well designed chocolate cooling tunnel with proper automatic controls will operate unattended. However, when a cooling tunnel is run for the first time it must be "tuned up" for best cooling efficiency.

Before running any goods through a cooling tunnel, the speed relationship between the chocolate coater wire belt and the tunnel glazed belt should be checked to make certain that the tunnel belt speed is the same as, or slightly slower than, the coater belt speed. If this speed relationship is not right, the bottoms of the coated pieces will not be satisfactory.

The tunnel conveyor drive is usually driven by a line shaft from the coater drive. This assures automatic synchronization of the tunnel conveyor belt with the coater belt at all speeds. Where a cooling tunnel has an independent motor drive it must have a variable speed device which can be adjusted to give the correct tunnel belt speed when the coater speed is changed.

At each end of the cooling chamber vertically adjustable doors or curtains should be provided and these adjusted to just clear the goods, so as to control as closely as possible the passage of air.

The blowers in the cooling tunnel should be started as soon as the cooling coil is turned on, and the blowers should always be in operation while the cooling coil is on. This will help prevent the cooling coil from frosting up and blocking the passage of air. It is a good idea to have cooling tunnel controls wired in such a way that the solenoid valve in the liquid line supplying refrigerant to the cooling coil cannot be energized until the blowers are operating.

The best speed of operation of the blowers and the best damper adjustment can be approximately determined before the cooling tunnel is put into production, and then the final adjustments made with goods passing through the tunnel. The cooling air in the cooling tunnel will rise in temperature as it goes through the tunnel

Fred W. Greer, upon graduating from the Massachusetts Institute of Technology in 1925, joined the J. W. Greer Company, manufacturers of confectionery and bakery machinery. As a machine designer, research and development engineer, and chief engineer of the Greer Company, he has had over twenty-five years' experience with confectionery and bakery machinery. Although now president of his firm, he is still interested in and active along research and development lines.

Rowland Hill is also a Massachusetts Institute of Technology engineer, graduating in 1943. After several years' experience with other concerns doing design, research and experimental work, he joined the Greer organization early in 1949. He is now in charge of the Experimental Department of the J. W. Greer Company.

CONTROL ARRANGEMENT

COMPRESSOR CYCLES ON LOW PRESSURE CONTROL.

TEMPERATURE CONTROLLER

CONTROLS SOLENOID VALVE.

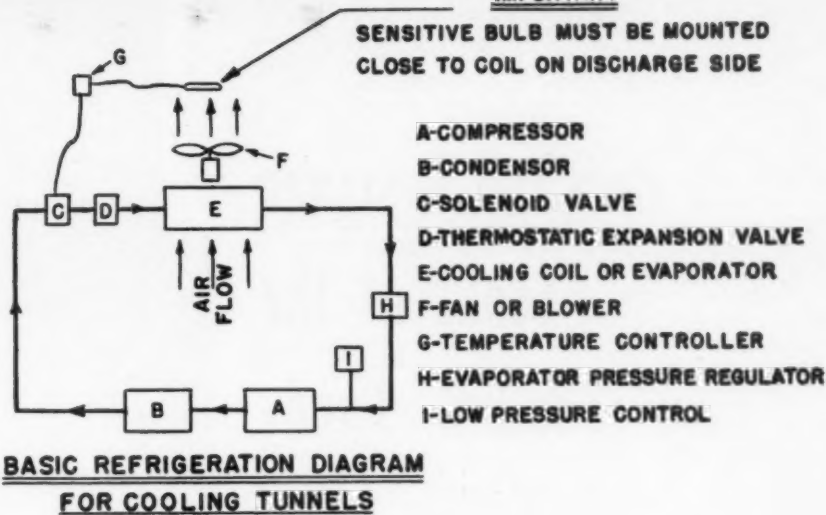
REFRIGERANT TEMPERATURE

IN COOLING COIL MAINTAINED

AT APPROXIMATELY 32°.

IMPORTANT

SENSITIVE BULB MUST BE MOUNTED CLOSE TO COIL ON DISCHARGE SIDE



extracting heat from the chocolates. The blowers are correctly adjusted for volume output when the air rises about 20°F. from the time it leaves the cooling coil until it returns again. The cooling coil is set to control the temperature of the air leaving the coil at approximately 40°F. The adjustable baffle which by-passes the air from the first section of the tunnel should be adjusted so that the temperature of the air below the baffle and around the chocolates is between 60° and 68°. The actual ideal temperature depends on the chocolates being cooled and can only be determined by experience.

The air volume output of the bunker box blower and the booster blower in the opposite end of the tunnel must be balanced so there is just enough air moving out of the tunnel entrance opening to maintain the desired temperature under the baffle. This, of course, will result in a similar movement of air into the tunnel at the packing table tunnel opening. Air velocities through the main cooling section of approximately one thousand feet per minute seem to give the best results.

The thermostatic bulb of the air temperature controller should be in the air stream leaving the cooling coil where it is at its coldest. The temperature controller usually actuates a solenoid valve in the liquid refrigerant line to open it and allow refrigerant to flow to the cooling coil when cooling is required, and to shut this solenoid valve when required air temperature is attained. This temperature controller should be set at 40° to 45°F.

For thinly coated goods 45°F. is probably best and for heavily coated goods a temperature nearer 40°F. is desirable. This controller is normally all that the cooling tunnel operator should have to be concerned with as far as the refrigerating system is concerned.

However, there are a few factors in the refrigerating system which contribute considerably to the cooling efficiency of the tunnel and a brief discussion of them follows.

The cooling coil usually chosen for a chocolate cooling tunnel is the fin type. Because of its large heat transfer surface, its compactness, and its lower cost, it is better than a plain pipe cooling coil. If the space between fins, however, is too small, this coil may frost up solid and stop the flow of air through the tunnel. The coil must then be turned off until it defrosts.

The cooling coil should have enough cooling capacity to carry the tunnel load without the surface temperature

of the coil being lower than 32°F. Under this condition the coil can operate without frosting.

Freon refrigerant is recommended above others because it is a "safe" refrigerant—it is neither toxic nor explosive.

Where the cooling coil is connected to a large refrigerating system with the suction refrigerant pressures varying because of other coils in the system, it is best practice to install a suction pressure regulator (commonly called a two temperature valve) on the tunnel cooling coil to maintain proper pressure.

The best arrangement for temperature control of the air in a cooling tunnel includes a thermostatically expansion valve always, the suction pressure regulator if required, and a solenoid valve in the refrigerant liquid line before the thermostatic expansion valve. The solenoid valve is controlled by the thermostat which is actuated by the air stream of the cooling tunnel. When the thermostat calls for cold air, the solenoid valve opens and allows liquid refrigerant to flow to the coil. If the refrigerating system is fairly well balanced the air temperature control will be as close as the thermostat is sensitive. Temperature control is sometimes accomplished by means of the pressure regulator alone but this is an indirect method for close control and depends on a constant cooling load and a constant superheat for close control, and is not readily adjusted like a thermostat.

A diagrammatic arrangement of a recommended refrigerating system is shown here.

It is not surprising that in dealing with a complex substance such as chocolate, a relatively complicated procedure must be followed in properly solidifying it. Chocolate cannot be mistreated at any point if it is to make its best appearance before the consumer. No cooling tunnel can produce satisfactory results unless the chocolate coming to it has been properly melted and tempered, and correctly handled in the coater. The centers, too, which the chocolate is to cover, must be at the correct temperature. Upon leaving the tunnel, the chocolate coated products should be kept at moderate temperatures. The cooling process is but one event in the life of "a chocolate in the making" but a highly important one. If the factors mentioned are taken into consideration, and provided for in the design of the tunnel, the resulting production will be dependable and satisfactory in quality and quantity.

A Package Designer Looks at the "Nickel" Candy

by **KARL BERNHARD**
Lucian Bernhard Studio, New York
Photographs by **RUDY BLESTON**

THE vast field of candy bars could be a veritable paradise for the package designers of America! No other group of popular merchandise, save probably cosmetics, presents a similarly wonderful opportunity for colorful, imaginative and "mouth-watering" design. Few other products have to appeal equally to men, women, octogenarians and children at the same time, and to such a large extent on the basis of the package. Hardly any other group of merchandise is so little backed up by advertising, so that virtually every sale is an impulse sale determined by the package itself.

Yet, in looking over the present display of any candy counter, one is struck by the lack of inspiration and imagination evident in the design, color, and lettering on wrappers of nationally known and local products alike. (There are exceptions of course!) This is the more surprising since few other products are sold under as unfavorable conditions of lighting, display, surroundings, etc. as the candy bar.

The lack of advertising, the impulse buying, the manner of display, these provide strong reasons for the manufacturer to do the utmost in provoking, eye-appealing packaging for candy bars and low-price candy boxes.



Most rules of package design never change because the human eye never changes. A curved line is more eye-compelling than a straight diagonal. This wrapper is orange, with dark blue ovals and "YUMMIE" dark blue on white. The unity of composition, the orderly arrangement of all essential elements and the free areas would make this wrapper stand out anywhere.



To let the public see that your product is delicious, the package designer has a wealth of devices of color and form. Chocolate brown, strawberry pinks, and a pleasant light blue background combined with an unusual design element and logotype mark "TRICK" as an especially tasty morsel and make it easily remembered and recognized.

One of the reasons for this sad state of design in the confectionery field is, at least superficially, undoubtedly an economic one. To be sure, the very small margin does not permit the use of fancy packaging materials and techniques which are used for cosmetics. But this very fact makes the employment of the best design even more imperative; for it is important to realize that, using the



The "VIM" wrapper (standard small chocolate bar proportions) is divided into dark blue and white, with a light red CURVED band unifying the two. While the "VIM" could be more powerful by occupying the entire width of the wrapper, the relatively free white area helps separate the bar from the ones competing with it on the counter. A protective free area around the trade name is often more important than mere size. Legal copy should be well integrated with the design.

same limited number of colors on the same grease-proof paper, the experienced package designer knows how to achieve a far better appearance than is evident in most of today's candy packages. Undoubtedly many manufacturers think that they can not afford the services of a good designer within the budget, and thus turn to the local printer for "free" designs. But, take into account the great importance of the visual appeal, specifically of this product, and you will realize that he cannot well afford *not* to use the best talent available.

The elements of a good wrapper for candy bars are the same as those for any good package, except more so! While with most products the consumer is constantly being "pre-sold" by advertising, most buying of nickel candy is done by the roving-eye method, and the eye is caught by: a) the familiar package, or b) the unusually attractive. Therefore, your package must have two major qualities—it must be rememberable, that is, it must have some distinctive device that once seen is not so easily

forgotten; and it must have visual impact created by clean design, bright color, well proportioned lettering. These qualities become even more important when you consider the great percentage of children among your customers.

Despite the obviousness of these requirements, the majority of wrappers continue to be printed in sick-looking combinations of yellow and red, yellow and brown, dead greens, dead blues, and similar unappetizing colors, and are graced by amateurish lettering and com-



It is surprising how drab and unappetizing are most small packages for jelly beans, jujubs, licorice and similar confections that have to appeal mainly to the young. "BEE BOP", in bright red and green with generous areas of white would stand out on any counter in any light—and in color and design express the frivolous nature of the product. When it is advisable to show the actual product on the package, as in the case of "Frutees", a very dark blue, brown or black panel and cast shadows will greatly enhance its colorfulness.

monplace design. One of the reasons for this, which applies to many products, appears to be that the leaders in a field so often score great successes *in spite of* the poorest packaging. While they may be able to afford sloppy appearance, for a manufacturer who wants to improve his position in this highly competitive field, good package design is one sure step toward that goal.

Just because the margin is so small, just because the



Aluminum foil, paper backed or plain, is ideal for many confections. The attractive sparkle is fully effective, however, only when printed in two colors, one of them a light pastel shade or white. These two wrappers show the use of the initial of the mythical Smith Candy Co. applied as the principal decorative element. Suggested two colors are dark blue and pink or red and white.

materials available are limited by cost factors, *good design is the one flexible element* which can greatly increase dealer acceptance and saleability of a product without virtually affecting the cost per unit! It is due to lack of realism that, while employing the best candy makers, the best machinery he can get and well-dressed, clean-shaven salesmen, rarely does the manufacturer carry through by availing himself of the services of a top package designer who brings to the problem wide experi-

ence, good taste, and an outsider's fresh point of view. It is well to remember that not even the tastiest candy bar will have the chance to please the public palate if it has not first pleased the public eye!

As for an established product that looks out of date, it is never too late (and never too early!) to change the package for the sake of improving appearance. The advantages of such an improvement will likely more than make up for any loss of recognition, especially when the change of design is exploited promotion-wise to jobbers, dealers and the public.

The illustrations accompanying this article are purely imaginary. They represent some of the ideas expressed above, and may or may not find direct application to the particular problems of the reader. It is hoped, at any rate, that these illustrations will help the reader visualize some of the basic principles of good package design.

Editors Note: This article was written before the present shortages of cellophane, foil, and other packaging materials had developed. With the materials situation as it is now, design ingenuity is even more important, and this article more timely.

Dr. Stroud Jordan Award Presented to James A. King



James A. King, of Nulomoline division of American Molasses Company.

The American Association of Candy Technologists makes the first presentation of the Stroud Jordan Award to a former colleague of Dr. Jordan's, James A. King.

This award, established in commemoration of the work and contributions to the Confectionery industry made by Dr. Stroud Jordan, is presented to the person who has made an outstanding contribution in the field of candy technology. Prof. Kathryn Langwill, who was associated with Dr. Jordan for many years will make the presentation on June 5th, at the National Confectioners' Association convention in Chicago.

In January Mr. King was tendered a testimonial dinner in New York by the Association of Manufacturers of Confectionery and Chocolate of New York, for his many years of untiring and unselfish service to the industry.

It is fitting that Mr. King receive the first award made by the Association.

candy making for the beginner: Lesson V

by **ALFRED E. LEIGHTON**
Consulting Food Chemist & Candy Technologist

FUDGE AND FUDGE MAKING

FUDGE is another example of a controlled grain confection, delightful in nature and characteristics when properly made. There are many do's and don'ts in the making of fudge, if good results are to be obtained. Many of the factors that yield a good fondant, as outlined in previous lessons, operate, with some modifications, in the making of fudge. Good fudge will possess a pleasant milk flavor, have a fine grained texture, and be what the candy maker means, when he says of a candy, that "it has good eating quality."

The characteristics mentioned owe their presence to the processes of manufacture, and the nature of the ingredients used.

The Ingredients: and the Purpose of Each. Broadly they are sugar, corn syrup, milk and fat. The milk may be sweetened-condensed, or evaporated. Dairy cream is sometimes used for the dual purpose of providing flavor and a source of fat. Dairy butter as such is also a double purpose ingredient, and enters into the composition of some fudges. At times whipped egg albumen-sugar-corn syrup combinations, (called frappes by the candy maker) and also basic fondant enter into the processes of manufacture. The two latter are not strictly different ingredients, but treated forms of regular items which produce definite and desirable results because of the characteristics developed by processing. Sugar is primarily the grain producer as always, and is the principal ingredient. Occasionally brown sugars enter the formulas as ingredients in some commercial preparations when due regard is paid to the presence of some invert sugar which they contain, and which may have a tendency to slow up desired graining. In chocolate fudge, chocolate liquor (bitter chocolate) and or cocoa powder, are used as flavor ingredients, with or without a little vanillin to boost the effect. Corn syrup as always is employed for the purpose of controlling grain formation—not suppressing it entirely as is done for some candy items, but just for slowing it up so that it takes on the desired nature and size. Corn syrup in this instance also serves another useful purpose in cutting down the over-all sweetness of fudge, due to the preponderance of sugar in the composition.

Fat as such, provides some lubrication and ease in cutting pieces to size. When fats such as dairy butter are used they bring flavor with them. Dairy cream provides butter fat as well as milk solids when it becomes part of the formula. Any whole milk product, regardless of the form, when used for making fudge, provides its quota of butter fat. Vegetable fats such as coconut oil, hydrogenated cottonseed and peanut oils are used in fudge making as economy items. They are bland as a result

of refining—they do not contribute any flavor value to the confections into which they enter other than to help bring out flavors already there. This they do by increasing the lingering effect in the mouth when pieces are being consumed.

Milk. Mention has been made in the text, of milk and its invariable use in one form or another in typical fudge formulations. Of the three most frequently used milk products in fudge making, not every one can be used with equal ease. The cooking facilities existing in any plant practically restrict the candy maker in his choice. Only those forms that can be blended most easily into the body of the cooking mixture should be used, to avoid trouble. The resistance to flowing, or viscosity as it is technically called, is a leading property that governs the selection of milk product type, under any given set of conditions. Cream with its higher butter fat content will yield more flavor than either a straight evaporated or sweetened condensed milk. Within the limits of viscosity therefore, seen in properly processed milks, we notice the ease with which they cook in. The following table setting forth the usual chemical composition of milks, illustrates the points brought out. The thoughtful student will, by comparing the figures given for water, milk solids, sugar and butter fat, see some reason for the employment of a specific form of milk in a given fudge formula.

Usual Composition of Milks by Type

	Market milk	Light Cream 20%	Evaporated Milk	Sweetened Condensed	Con-densed (skim)
Water	87-88%	73.0%	70-72.0%	28.0%	28.0%
Sugar (Sucrose)	0.	0.	0.	42.0%	42.0%
Non-fat Milk solids	8.5%	7.0%	20-22.0%	21.5%	30.0%
Butter fat	3.5%	20.0%	8.0%	8.5%	0.

Manufacturing Methods. Before describing these at any length, the student should consider the make-up of some typical fudge formulas that are given below. They are not exhaustive by any means, but they are illustrative.

Some Typical Fudge Formulas

	#1	#2	#3	#4
Sugar	7¾ lbs.	7½ lbs.	7 lbs.	10 lbs. 8 ozs.
Corn Syrup	4 lbs.	4 lbs., 5 ozs.	4 lbs.	3 lbs., 8 ozs.
Sw. Cond. Milk	5½ lbs.	5 lbs., 5 ozs.	5¼ lbs.	3 lbs. cream 2 lbs., 10 ozs. *
Hard Fat	2¼ lbs.	1 lb.	2 lbs.	12 oz.
Fondant	5½ lbs.	5 lbs., 5 ozs.	6¼ lbs.	4 lbs., 6 ozs.
Vanillin	1/5 oz.	1/5 oz.	10 drops oil bitter almond.	1/5 oz.
Nuts or fruits	—	1½ lbs. Choc. liquor	½ lb. cherry pieces (drained)	
Glycerine	8 ozs.	8 ozs.	8-ozs.	8 ozs.

*Evaporated milk.

Salt up to 1/5 ounce in any of the formulas above is optional.

Glycerine appears in every formula given, and its purpose is to retard the drying out of the confection. Fudges have a tendency to dry out with age, and become hard due to loss of moisture among other things. Fudges containing frappes, which therefore have been aerated, are inclined to dry out more quickly. Glycerine has the property of attracting and holding water unto itself, hence its inclusion is an advantage. Formulas do not vary to any appreciable extent—the quality of the ingredients can be stepped up as desired. Butter can be used in place of hard fat substituting 1.1/5th. pound for each pound of hard fat. Cream and or evaporated milk can be used in place of sweetened condensed milk—

These articles started with the October 1950 issue of *The Manufacturing Confectioner*.

This series is designed exclusively for the beginner to better his understanding of the function of ingredients and the "why's" of candy making. The course has been prepared by Alfred Leighton, consulting food chemist and candy technologist.



the quality of the candy would be up-graded by so doing, but extra sugar would be called for to the extent of 2 lbs approximately for every 5 lbs of sweetened condensed milk substituted. The formula so altered would lack a little in milk solids also (if much cream is used) which could be made up by a few extra pounds of evaporated milk. In large plants where it is desired to make economically priced items and where the cooking facilities provide steam-jacketted kettles skim condensed milk may be part of a formula. This item however lacks butter fat so its use calls for extra hard fat to make up for the deficiency.

Production. Where the facilities exist for volume manufacturing, modern procedures call for the use of master mixes. These are prepared by bringing most of the ingredients together namely sugar, corn syrup, condensed milk and fatty ingredients, mixing and blending them, under the influence of gentle heat. Sometimes, a machine known as an homogeniser is used to make a good blend. The homogeniser is broadly speaking, a pump which forces the mixture through very narrow orifices or spaces, sometimes between revolving plates, that exert a sort of shearing action on the ingredients and break them down, especially the fat globules, into small sizes, very evenly distributed throughout the mass. The result is a smooth non-separating mixture which can be cooked with ease in a steam-jacketted kettle. The master mix is an economical multi-batch procedure, for it is just as easy to weigh or meter measure, sufficient material for twenty or thirty batches, as it is to weigh only enough for one. After blending, the master mix is drawn on to supply the kettles for each batch to be cooked. The cooking proceeds and when the predetermined temperature has been reached items such as frappe and fondant are added and blended in after the heat has been shut off, flavor added and the mixture allowed to cool somewhat. It is then run onto slabs to set, solidify, and be scored for cutting.

The steam-jacketted kettle permits the use of a sweetened condensed milk as a source of milk solids, whether a master mix is made or not. Where the cooking is done over gas or open fire, as in small kitchens associated with retail establishments, evaporated milks have to be used because they are thinner, and blend in more easily than the heavier more viscous sweetened condensed milks. The attempt to use the condensed milks under such circumstances is an open invitation to scorching, burnt specks, and dark colored candy that is most unattractive, regardless of how vigorous the stirring may be. A skilled candy maker can do it, but the results do not warrant the extra care and precautions that have to be taken, ex-

cept in an emergency. When evaporated milk is being added separately to a warm batch it should be poured in gradually, to prevent curdling. Some operators like to use small amounts of neutraliser to combine with any excessive acidity that may be present in the milk. Such substances as Ammonium Carbonate, Sodium Citrate, or Sodium Phosphate all USP grade can be used for the purpose at the rate of 1/5th of an ounce for each gallon (9 lbs) of evaporated milk used. The neutraliser is first dissolved in a little water and then added either to the milk as such, or it can be added to the cooking batch immediately before the milk.

A similar method of working in vogue, consists of melting the fat ingredient, adding sugar (fine crystal for quick and easy solubility in minimum amounts of moisture) corn syrup, and milk stirring to blend while the mass is being heated gently. The temperature is raised after complete solution of the sugars and the cooking completed at 240 degrees or thereabouts depending on the formula. It is then permitted to cool to 200 degrees, fondant added (if called for in the formula) together with flavor. The mass is then stirred to blend in the added ingredients, then finally poured onto greased slabs, tin or aluminum trays. The batch will grain speedily as it sets. While still plastic it is marked off into squares with any suitable cutter, left to cool, and cut or broken to size when cold. The fondant seeds the batch and starts the grain formation wherever it is used. As students will recall, fondant has a fine grained structure and will cause the whole batch to grain in the same way as itself. It must, however, be added at the right time: when the mass is not so hot that it will cause the fondant to melt completely, and lose its crystalline body.

Frappe has been mentioned and described as an egg albumen-sugar-corn syrup combinations. It is prepared by heating the sugar and corn syrup to about 240 to 242 degrees, cooled to lower than 160, and then poured over or mixed with egg albumen and whipped to the highest peak which the mixture can assume on whipping. Occasionally, invert sugar makes up part of the formula to retard drying. The sugar mixture is cooled to below the coagulating temperature of egg white before it is added to it, and by so doing when the egg white does coagulate more slowly as a result of heat—it has captured and imprisoned the air bubbles that have been whipped into the mass. Within recent times vegetable albumens under proprietary names have entered the market and are available to the candy maker for use in place of egg albumen, wholly or in part. Some candy makers like these vegetable albumens very much. When frappe is added to a batch of fudge it will impart a certain volume of air which is distributed through the mixture as it is blended in. This serves to lighten the color of the batch (because the frappe is snow white) and at the same time the distributed air decreases the density of the mass. The presence of frappe in any fudge is not always an unmixed blessing because it is apt to cause more rapid drying-out of the fudge. However, the use of invert sugar in the frappe, and other moisture loving agents like glycerine in the fudge, help to delay the onset of dryness. When fudge is consumed quickly, the lightness in texture, is an appreciated characteristic by the consumer.

A Few Do's and Don'ts In Fudge Making

Do.—Use fine sugar if at all possible; it dissolves faster in small quantities of water, thereby lessening overall cooking time, cooking inversion, color development and stickiness.

Do.—Use an 80-sugar, 20-corn syrup, make-up for fondant used in fudge making, cooked to about 244 degrees Fahrenheit.

Don't.—Add fondant to cooked syrup when it is too hot—the heat will melt the fondant too completely; thereby destroying its fine grain structure, producing coarseness and spottiness through clumping of grain formations.

Don't.—Cool fudge on iron slabs with running water during cooling—

Don't.—Use too cold a table for cooling because heat in the candy migrates from table surface to candy surface, and causes spotting due to unequalled cooling. (Note. Some candy makers cool fudge on greased manilla paper, under which some sugar crystals are sprinkled to prevent sticking of paper to table. The tables can be wood-topped, which provides gradual and slow cooling effects. There is nothing wrong with that practice).

Practical Exercises in Fudge Making

Assemble and have ready, equipment as outlined in earlier lessons. Have the following supplies in readiness. Sugar, corn syrup, evaporated milk (canned) salt butter, vanilla flavor, unsweetened chocolate.

Vanilla Fudge. Tare top of boiler and weigh the following into it:—1 lb. fine crystal sugar; 11 ounces evaporated milk; $\frac{3}{4}$ ounce salt butter. Weigh off separately $5\frac{1}{2}$ ounces Corn Syrup (Karo—red label) and keep this on one side until needed. Warm top boiler containing weighed ingredients over gentle flame, stirring continuously until dissolved. Add the corn syrup in the manner previously described in earlier lessons, allowing the heat to warm and thin the syrup to obtain good drainage. Mix and blend—don't boil until solution of sugar is complete. Raise temperature to 240 to 242 degrees Fahrenheit, stirring from time to time. Remove from heat when temperature is reached, and permit to cool to 110 degrees Fahrenheit, add 1 teaspoonful vanilla and beat until the mixture thickens up, loses its gloss, and takes on the surface appearance previously seen when making fondant. Pour on to greased paper or cookie sheet with bars arranged rectangularly so that when the fudge is poured it will fill the space up to the bar height. The pan sides can be scraped out and scrapings added to mass between the bars. Cool, and while still soft enough score and mark off into squares with the spatula edge. When cold, remove bars and break into pieces at the scored marks.

Chocolate Fudge. Using the same equipment as in vanilla fudge making—weigh off: Sugar 1 lb. Corn syrup 4 ounces, salt butter $\frac{1}{2}$ ounce, unsweetened chocolate (Super market item) 2 ounces, vanilla 1 teaspoonful. Repeat the fudge exercise as described under vanilla fudge—follow the same directions. The chocolate may be added together with the other ingredients and all warmed up and blended together—corn syrup and vanilla are both added as before, and at the same stages in the fudge making. Cook to 238°F. this time. Pouring and finishing as under vanilla fudge.

Next Installment will deal with Caramel Making.

PREVIOUS CHAPTERS

October 1950—Assembling Equipment, materials

November 1950—Definitions of familiar terms

December 1950—Butterscotch Squares

January 1951—Fondant Making

February 1951—Basic Fondant



Seated: Phillip P. Gott, Victor H. Gies, Neal V. Diller. Standing: Theodore Stempel, Frank K. Gleason, O. W. Johnson, William R. Maclean.

NCA Names Convention Committees

National Confectioners' Association have announced a tentative program for their 1951 convention to be held at the Stevens Hotel, Chicago, June 3-7. On Sunday will be the regular get-together party, Monday the gold tournament and at noon the opening of the Confectionery Industries Exposition. The opening of the convention will be at 10 o'clock Tuesday and the sessions will carry through Thursday. Victor H. Gies, vice president of Mars, Inc., Chicago, will be general chairman. Mr. Gies was program chairman of the 1949 convention, is a NCA director, chairman of the Distribution Committee, and one of six men serving on a joint educational committee of manufacturers. Frank K. Gleason, E. J. Brach & Sons, Chicago, is program chairman. D. P. O'Connor, Penick & Ford, Ltd., New York is chairman of the Exposition Committee. The exposition will open on Monday, June 4th and close Thursday, June 7th.

Neal V. Diller, Nutrine Candy Co., Chicago will head the Dinner Dance Committee; O. W. Johnson, Callerman Co., Chicago, is chairman of the Golf Tournament Committee with R. J. Iverson, Nutrine Candy Co., Chicago, as co-chairman. Mrs. Julia Stevens, Steven Candy Kitchens, Chicago, is chairman of the Ladies Entertainment Committee. Max L. Gartner, Fascination Candy Co., Chicago, is chairman of the Sunday Get-Together Committee and Frank H. Hanscom, Walter H. Johnson Candy Co., Chicago, is Housing Committee Chairman.

John R. Hadfield has resigned as publicity director of Council on Candy of the association.

December 1950 Confectionery Dollar Sales Up

Dollar sales of confectionery manufacturers in December were about nine percent above December a year ago, according to preliminary figures of the Census Bureau. Package goods and bulk goods houses reported increases of 16 percent and 15 percent, while the increases reported by bar goods and general line houses were not so pronounced. Although poundage sales in general declined slightly from the last year's level, an increase of seven percent in poundage sales were reported by package goods houses.



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COCONUT NEWS & PREVIEWS

By Charles B. de Maya
Mgr. Franklin Baker Laboratories

and Max E. Ruehrmund
Mgr. Franklin Baker Industrial Service Laboratory

COCONUT SUPPLY CABLE

San Pablo, Republic of the Philippines. High-quality, tree-ripened Coconut continues in good supply. Monthly exports continue at twice pre-war levels. The outlook for the coming months is optimistic.

CREAMED COCONUT IN TAFFY AND KISSES

A new flavor-improving and at the same time money-saving development in taffy and kisses is to replace your lubricants with Creamed Coconut on a pound-for-pound basis. In any flavor of taffy or kisses, their stand-up qualities are remarkably improved when made with Creamed Coconut.

CHOCOLATE-COCONUT TRUFFLES

An extra-high-quality truffle can be made with a blend of dark sweet chocolate and Creamed Coconut with sweetened condensed milk. Tender-Fresh Coconut can be added with chopped fruits or nuts. For further information on this formula or for formulas for a wide variety of coconut candy pieces, contact the Franklin Baker Laboratories.

CONSUMER DEMAND

During the first 45 days of 1951 the consumer demand for coconut maintained the unprecedented levels set last year. Confectioners, as well as bakers, cracker and biscuit manufacturers, and the ice cream industry all report a heavy demand for coconut items by American families. Particularly noted was the demand for coconut in all forms by children.

CAST BUTTER CREAMS

These old-time volume sellers can be even better when Creamed Coconut is used to flavor the Coconut pieces. This versatile formula can be cast in many forms, egg or animal shapes, cream corn.

BLUE RIBBON AWARD

The city of San Pablo, Republic of the Philippines, recently awarded the Franklin Baker Coconut Company a blue-ribbon award as the most sanitary industrial plant in the city. The maintenance of the highest sanitary standards is only one of the reasons this Franklin Baker plant is the most modern coconut processing operation in the world. For further information on the rigid inspections that coconut is subjected to as it is processed, read the story of "The 51st Coconut" on the following page.



See next page 

THE SECRET OF THE 51st COCONUT

And How It Can Help You Achieve More Uniform Quality in Your Coconut Candy Pieces

To turn out candies that are always uniformly good—batch after batch, day after day—you have to have ingredients that are always uniformly high in quality, ingredients that never vary, never slip below par.

This is particularly important in the case of coconut. For coconut has a tremendous effect not only on the flavor of candy, but on its texture, color, consistency, moisture content and absorption of syrup.

Unfortunately, Nature does not make every coconut a paragon of perfection. There are bound to be variations and imperfections in every harvest.

That is why the story of the 51st coconut is so important. It is the story of a test—the first of many tests carried out by the largest coconut-processing plant in the world—to insure that the coconut it offers you will always be of the uniform high quality required for fine candymaking.

Let's begin at the beginning . . .

Protection Starts Early



When tree-ripened coconut is harvested, it is hurried directly to the processing plant, located in the middle of the Philippine coconut groves.

An average of 750,000 coconuts arrive per day—some in carabao carts, some in twin baskets slung over ponies' backs, most of them in modern trucks. But however they are transported, the nuts are always covered with tar-

paullins or palm leaves, according to strict plant rules, so they won't crack in the hot tropical sun.

The trucks and carts are weighed and then back up to loading platforms where workers count the nuts into sacks, fifty to a sack. The 51st coconut is set aside.

The 51st Coconut

This coconut is not only a counter . . . but, more important, a test sample. It is opened and undergoes a rigid inspection. If it is green, rotted, cracked, or in any way off-quality, the whole group is rechecked extra-carefully.

If all the 51st coconuts in a load are sound, the load is accepted. Growers are paid by a formula

based on the weight of the load *plus* the number of nuts. There is a premium for larger, heavier nuts because they offer the finest meat.



Hand-counting (instead of simply dumping the load onto a scale for mass-weighing) offers other advantages, too. Every single coconut receives a quick inspection by a practiced eye during the unloading.

The nuts are handled more gently; and when the bags are stacked by hand, there is plenty of room between the nuts for aeration. Thus, from the very beginning, every care is taken to protect the quality of the coconut destined for candymaking.

Processing Begins—Inspection Continues

Processing begins as soon as possible to catch the flavor at its peak and seal it in so the coconut will retain its true, natural freshness.

The bags are emptied onto a conveyor belt and the nuts ride into carts which hold 300. Each cart goes to a sheller.

With a sharp, chisel-like knife, the sheller starts an opening in the shell. Then, *quickly*, his practiced knife pries away the rest of the shell. He inspects the shelled nuts for soft spots, and slides the good nuts down a tile chute to the parers.

The parers peel the thin brown skin off the nuts with a special curved parer's knife. They, too, inspect for defects before sending the nuts on their way on another conveyor.

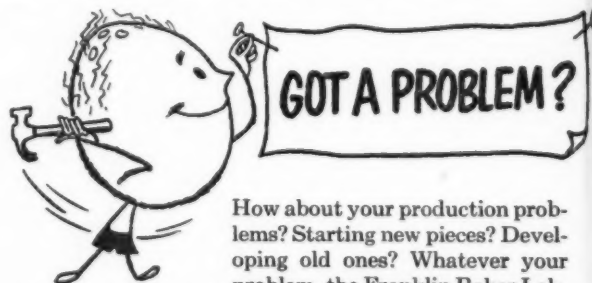
Only the meat which passes these careful inspections is accepted for washing, shredding, and final processing.



One of the Many Franklin Baker "Secrets"

The story of the 51st coconut and the part it plays in the early stages of processing is just one of the many "secrets" of Franklin Baker quality-control . . . just one of the many reasons why Franklin Baker Coconut is the finest coconut that money can buy.

Because constant checks are applied to every step, you can be sure that every batch of Franklin Baker Coconut will always be of uniformly high quality—quality that will help you make uniformly fine candy.



How about your production problems? Starting new pieces? Developing old ones? Whatever your problem, the Franklin Baker Laboratories are at your service. Call or write us today. Franklin Baker, Hoboken, New Jersey.

HEADQUARTERS FOR COCONUT, FRANKLIN BAKER DIVISION, GENERAL FOODS CORP., HOBOKEN, N. J.
A type of coconut for every confectionery need. Complete line includes the following famous brands:

Gem Philippine Coconut (10 varieties)

Tender-Fresh Coconut (4 varieties)

Golden Toasted Coconut (7 varieties)

Baker's Creamed Coconut (2 varieties)

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PMCA CONFERENCE PROGRAM

THE PROGRAM for the Fifth Annual Production Conference has been completed. The Pennsylvania Manufacturing Confectioners' Association who sponsor these production conferences at Lehigh each year have announced the dates of April 26th through 27th at the Hotel Bethlehem, Pa. For reservations write to secretary of the association, Mr. Harry H. Rohrer, P. O. Box 163,

Hans Dresel, conference committee chairman announces the program for the fifth annual production conference of the PMCA at Lehigh University, April 26th and 27th.



Elizabeth, Penn., or to Hans Dresel, Chairman of the Conference, 15 Lombard Street, Philadelphia 47, Penn. The conference is designed for production personnel such as superintendents, foremen and assistants, as well as management. The conference program follows:

Thursday, April 26th

MODERATOR: Philip Wunderle, III, Ph Wunderle, Philadelphia, Chairman, Executive Committee, PMCA.

- 9:00 a.m.—Registration
- 9:15 a.m.—*Introductory Remarks*. C. R. Kroekel, president, Kroekel-Oetinger, Inc., chairman, Research Committee, PMCA
- 9:30 a.m.—*Research and Industrial Progress*. Dr. H. A. Neville, Director, Institute of Research, Lehigh University.
- 9:45 a.m.—*Ingredient and Process effect on Candy Characteristics*. James A. King, Nulomoline Division of American Molasses Co.
- 10:30 a.m.—*Applying Time and Motion Principles practically*. Morris L. Wurman, vice president, General Plants Manager, Bayuk Cigars, Inc.
- 11:00 a.m.—Recess
- 11:15 a.m.—*Quality Control*. Dr. J. M. Juran, professor of Management Engineering, New York University.
- 11:45 a.m.—Discussion
- 12:30 p.m.—*The Dairy Products you use*. Ray W. Myklesby, Supervisor of Laboratories, Land O'Lakes Creameries, Inc.
- 1:00 p.m.—Lunch (to be served on the campus)
- 2:00 p.m.—*Chocolate Cooling Tunnels*. Fred W. Greer, president, J. W. Greer Co.
- 2:30 p.m.—*The Adaptation of Manufacturing Procedure to the Packaging, Shipping and Shelf Life requirements of Pectin Confectioners' Jellies*. L. Cletus Gallagher, sales manager, Industrial Division, Products Department, California Fruit Growers Exchange.
- 3:00 p.m.—Recess
- 3:15 p.m.—*Pooling Ideas in the Candy Industry*. V. R. Ciccone, Asst. Works Manager, Charms Co.
- 3:30 p.m.—Reuse of Trimmings Symposium.
MODERATOR: W. H. Childs* Armour & Co.; V. R. Ciccone, Charms Co.; Charles Carilli, Edgar P. Lewis & Co.
- 4:30 p.m.—Discussion
- 5:00 p.m.—Adjournment
- 7:00 p.m.—The Pennsylvania Manufacturing Confectioner's Association Dinner (Dress informal), Hotel Bethlehem, Pa. Hans Dresel, representative, Felton Chemical Co., chairman, Fifth Annual Production Conference. Anthony J. Napolitan, Buttonwood Candies, president of the association.

Address—Philip P. Gott, President, National Confectioners' Association.

Friday, April 27th

MODERATOR: Mark J. Heidelberger, Heidelberger Confectionery Co., first vice president, PMCA.

- 9:00 a.m.—*Fats, Oils, Hard Butters*. G. F. Becker, sales manager, New England Division, E. F. Dres & Co., Inc.
- 9:30 a.m.—*How to Extend Shelf Life in Confections*. Justin J. Alikonis, chief chemist, Paul F. Beich Co.
- 10:00 a.m.—Discussion
- 10:30 a.m.—*Studies on the Tempering of Chocolate*. Dr. Nelson Easton, Asst. Professor of Chemistry, Lehigh University.
- 11:00 a.m.—Recess
- 11:45 a.m.—*Effect of Raw Material Quality on the Quality of Finished Chocolate Coating*. Dr. R. F. Korfhage, Chief Chemist, Peter Cailler Kohler Swiss Chocolate Co., Inc.
- 11:45 a.m.—Chocolate Discussion
- 1:00 p.m.—Lunch (Luncheon will be served on the campus)
- 2:00 p.m.—Round Table Discussion. Directed by James A. King.
- 3:45 p.m.—Recess
- 5:00 p.m.—Adjournment

*Mr. Childs is also Technical Editor for The MANUFACTURING CONFECTIONER, and is author of the pamphlet, "Modern Methods of Candy Scrap Recovery".

Boldeman Chocolate Co. Installs Bulk Sugar Handling

A bulk sugar handling system was recently placed in operation by the Boldemann Chocolate Company of San Francisco. The system was designed by the firm's engineer in collaboration with Thomas D. Rawlings, general manager.

Under the new arrangement bulk sugar is delivered to the Company's freight handling dock in inclosed metal trucks, and by means of a scroll conveyor is carried to the hopper erected at the floor level of the dock and from there is hoisted by bucket elevator to the third floor where another scroll conveyor carries the sugar back over a large storage bin on the second floor. It then travels by gravity flow to the sugar mill on the first floor. According to Oscar Boldeman Jr., President of the firm, the new system was devised to simplify the handling of their sugar requirements. Under the former method the sacked sugar was unloaded from motor trucks onto pallets and conveyed to the freight elevator and then hoisted to the desired point in that manner, a system that required considerable manpower and consumed much time. "With the conveyor system," Mr. Boldemann stated, "we are able to unload and deposit in the storage bin the equivalent of 300 sacks in 35 minutes, a saving of more than an hour over the former method. There are other economies in eliminating the loss of sugar remaining in empty bags as well as the reduced base price on bulk deliveries.

Research on Dental Caries Released

The U. S. Department of Commerce has just released "Results of German Caries Research During 1939-1944." Dental Caries, while definitely a "disease of civilization," is the result of so many causative factors that no single approach can be considered a cure-all. Of particular interest is the conclusion reached by a number of researchers that sugar does not appear in itself to further tooth decay through metabolic changes. The formation of a tooth film permitting rapid fermentation and consequent decay was however attributed to yeast dough, so summarizes the reviewer of the treatise.



George S. Perkins, chief engineer
National Equipment Co., gives

The Story of the Mogul and Depositor

before the AACT meeting
held at M.I.T. on February 13th.

THE ONLY MOGUL which was known up to around the year 1915 was the Model A wood Mogul, which was not fully automatic in operation since there was no positive means of automatically feeding the trays into the depositor. An operator had to be used at that point. The dumping arrangement of that machine was obsolete and it was the type of dumper which smashed soft centers because the dumper dropped the centers and starch several feet.

There were quite a few refinements on the first Steel Mogul, including a more improved dumping arrangement and sturdier construction which was possible with metal frames.

I am going into some detail because I feel that the questions that you will ask me will be along the lines of what improvements we have made in our latest Mogul as against the first steel Mogul which was most generally used throughout the industry.

At the present time, there are almost a thousand old type wood and steel Moguls still in use. Naturally, people want to know what is different in the newest machine which we call—the Model M-100 Mogul—as against the old machines which they are now using. I am going to go into detail, giving the dominant points of improvement.

First of all, I want to let you know that the new Model M-100 Mogul is constructed along the lines which would accommodate speeds of more trays per minute than previous models. Right here I want to say that the speed of any Mogul in trays per minute depends entirely on how many deposits are made in each. The depositing can be made at any speed up to 80 to 100 per minute.

For example: with 8 rows in a tray and depositing at 80 per minute would produce 10 trays per minute with single row pump bar. This capacity in trays per minute can be increased by using a double row pump bar, or 4 deposits per tray. The capacity then in trays per minute would jump to 15 or 16.—The depositing speed being cut to about 60, and so on, with triple and quadruple row pump bars.

Along the same lines, although the Model M-100 Mogul is operated at a speed of 15, 16 and 17 trays per minute, even up to 18 trays per minute on some kinds of candy, we can very easily see where, with certain refinements, particularly in the feeding and take-off of the trays, it will not be long before our Model M-100 Mogul would generally be run around this speed, if so desired.

The first big hurdle is the cleaning. I have been told time and again by our customers that our new Model M-100 Mogul, with the Thoroclean Sieve, gives much better cleaning at 17 trays per minute than we were able to secure with the old Moguls at 10 trays per minute. The Thoroclean Sieve arrangement has accomplished that purpose.

Another very great difficulty which the old steel Mogul presented was getting the sieve section out for cleaning. That was a major operation in the early steel Mogul. With the new Model M-100 Mogul and Thoroclean Sieve, the brush lined sections can be removed and replaced with a clean set. All of the work of removing and replacing the brush-lined section can be done at the delivery end of the sieve without the use of any tools, in a few minutes.

Here I want to mention one of the greatest improvements in the Mogul Department, i.e. the Hydro-Seal pump bar. However, the Hydro-Seal pump bar today is a greatly improved piece of equipment over the first ones made in 1941. The main body is made of a sanitary metal with stainless steel piston. The construction of the cutoff bar is such as to allow the material to enter easily and use the benefit of the gravity pressure in the tank to keep the channels full at all times. This allows for more accurate depositing and also for handling heavier and thicker mixtures, some of which could not be handled in previous types of pump bars.

The improvements on the new National Steel Mogul are: An entire unit built with extra heavy cast iron frames and enclosed in heavy steel covers with chromed accessories and large doors for easy access to moving parts of machine. Machine equipped with ball bearings sealed against starch. Steel chain of heavy construction specially manufactured for this purpose used for elevator buckets. Sprockets also specially constructed for this chain. Elevator buckets increased in size and changed in construction for greater starch carrying capacity necessary when operating machines at higher speeds. Speed up of elevator buckets for still greater starch supply and perfect filling of starch boards.

The scrapers equipped with heavy steel chain are now so constructed that they will eliminate the building up of starch on inside frames of Mogul. Cut sprockets are used in conjunction with the scraper chain to eliminate starch building up on them. These sprockets are now larger in diameter to handle more starch with scrapers. For the runways also a special type of heavy steel chain is used. Sprockets for these are also of special design to run in starch. Gear box for changing of speeds has been moved to outside of machine frame making space within the machine for easier handling of sieve and scrapers. Shift lever for sliding gear is located on end of Mogul within easy reach for depositor operator. The clutch arrangement has been eliminated on the Mogul and replaced by push button units having start-stop-and jog-buttons. Machines equipped with either standard or explosion-proof type motors.

If explosion-proof type motors used, machine will be wired accordingly to comply with Underwriters specifications. Push buttons will be of explosion-proof type, as well as controls. New printer arrangement with smooth-acting cams which are balanced and operated with roller bearing cam followers set for double printing. All the gears and gear lever for the printer on the early models has been eliminated. New printer head installed for improved printing.—Very much heavier than previous models. Heavier printer cam shaft installed, having heavy support on outside of frame for smoother operation. Harmonic motion device operating in oil is one of the

(Please turn to page 52)

The MANUFACTURING CONFECTIONER'S

Candy Clinic

The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Some samples represent a bona-fide purchase in the retail market. Other samples have been submitted by manufacturers desiring this impartial criticism of their candies, thus availing themselves of this valuable service to our subscribers. Any one of these samples may be yours. This series of frank criticisms on well-known branded candies, together with the practical "prescriptions" of our clinical expert, are exclusive features of The MANUFACTURING CONFECTIONER.

Assorted Chocolates Up to \$1.00

Code 3B51

Assorted Chocolates
1 lb. for 69c

(Purchased in a chain drug store,
New York City)

Appearance of Package: Good.

Box: Two layer telescope type, white paper top printed in purple. Cellulose wrapper.

Appearance of box on opening: Fair.

Number of pieces:

Dark coated: 22.

Light coated: 14.

Foiled: 2.

Half dipped gum drops: 2.

Coatings: dark & light.

Colors: Good.

Gloss: Poor.

Strings: Fair.

Taste: Fair.

Dark coated centers:

Coconut paste: Good.

Pineapple cream: Very cheap flavor.

Caramallow: Good.

Dark marshmallow: Could not identify flavor.

Maple cream: Fair.

Coconut cream: Rancid.

Kernel paste: Fair.

Fig jelly: Grained.

Mint gum & marshmallow: Good.

Light coated centers:

Cream: Could not identify flavor.

Coffee cream: Fair.

Cream: No flavor.

Dark nut cream: Could not identify flavor.

Raspberry jelly: Partly grained.

Nut paste: Fair.

Nut caramel: Good.

Nut taffy: Fair.

Nut nougat: Fair.

Chocolate cream wafer: Fair.

Orange cream foiled: Fair.

Kernel paste: Fair.

Assortment: Fair.

Remarks: We can not expect too much for 69c today in assorted chocolates.

Code 3A51

Assorted Chocolates
1 lb. for 95c

(Purchased in a grocery
store, Chicago)

Appearance of Package: See remarks.

Box: One layer type printed in blue, orange and white. Extension bottom.

Appearance of box on opening: Fair.

Number of Pieces:

Dark coated: 17.

Light coated: 19.

Coatings:

Colors: Good.

Gloss: Good.

Strings: Some good, others very poor.

Taste: Good for this priced chocolates.

Dark coated centers:

Orange cream: Good.

Chocolate paste: Good.

Chocolate fudge: Poor flavor.

Grape cream: Good.

Light chocolate paste: Good.

Vanilla cream: Good.

Rum cream: Fair.

Strawberry cream: Fair.

Light coated centers:

Pink cream: Could not identify flavor.

Candy Clinic Schedule For The Year

The monthly schedule of the CANDY CLINIC is listed below. When submitting items, send duplicate samples six weeks previous to the month scheduled.

JANUARY—Holiday Packages; Hard Candies

FEBRUARY—Chewy Candies; Caramels; Brittles

MARCH—One-Pound Boxes Assorted Chocolates up to \$1.00.

APRIL—\$1.00 and up Chocolates; Solid Chocolate Bars

MAY—Easter Candies and Packages; Moulded Goods

JUNE—Marshmallows; Fudge

JULY—Gums; Jellies; Undipped Bars

AUGUST—Summer Candies and Packages

SEPTEMBER—All Bar Goods; 5c Numbers

OCTOBER—Salted Nuts; 10c-15c-25c Packages

NOVEMBER—Cordial Cherries; Panned Goods; 1c Pieces

DECEMBER—Best Packages and Items of Each Type Considered During Year; Special Packages, New Packages

Lemon cream: Not a good lemon flavor.
Strawberry cream: Fair.
Maple cream: Not a good maple flavor.
Rum cream: Fair.
Vanilla caramel: Good.
Cream: Could not identify flavor.
Mint cream: Good.

Assortment: Fair.

Remarks: Suggest a better grade of flavors be used as some are very poor. Suggest a cellulose wrapper as box top was soiled.

Code 3C51
Assorted Chocolates
1 lb. for \$1.00

(Purchased in a Restaurant,
 New York City)

Appearance of package: Good.

Box: One layer type, white glazed paper printed in gold and blue. White paper wrapper, tied with white twine.

Appearance of box on opening: Good.

Number of pieces:

Dark coated: 28.

Light coated: 4.

Caramel & fudge nut—half dipped: 2.

Coatings:

Colors: Good.

Gloss: Good.

Strings: Fair.

Taste:

Dark: Good.

Light: Fair.

Dark coated centers:

Vanilla creams: Good.

Almonds: Good.

Orange cream: Flavor very weak.

Caramel: Tough.

Coconut cream: Good.

Pineapple & cream: Good.

Nut cream: Good.

Sponge chip: Good.

Chocolate cream: Good.

Buttercream: Fair.

Lemon cream: Flavor slightly off.

Fruit nougat: Good.

Light coated centers:

Nut crunch: Good.

Nut taffy: Good.

Chocolate paste: Had an "off" taste.

Caramel & fudge nut half dipped: Good.

Assortment: Good.

Remarks: One of the best boxes of assorted chocolates at this price we have examined this year.

Code 3D51
Bons Bons & Chocolates
1 lb. for \$1.00

(Purchased in a department
 store, Chicago)

Appearance of box: Good.

Box: One layer type, pink paper top printed in brown. Imprint of Gay Nineties man and woman in colors. Cellulose wrapper.

Appearance of box on opening: Fair.
 Five pieces were broken.

Number of pieces:

Light coated: 13.

Dark coated: 11.

Bon bons: 2.

Foiled piece: 1.

Coatings:

Colors: Good.

Gloss: Good.

Strings: Fair.

Taste: Fair.

Dark coated centers:

Fudge & caramel: Good.

Caramallow: Good.

Vanilla cream: Good.

Pink cream: Could not taste any flavor.

Coconut cream: Good.

Orange cream: Good.

Sprill: Top dark cream: Poor flavor.

Jelly: Could not identify flavor.

Light coated centers:

Vanilla caramel: Good.

Almond cluster: Good.

Ting ling: Good.

Cream brazil: Good.

Maple nut cream: Good.

Vanilla chew: Fair.

Cordial cherry: foiled: Good.

Dark cream: Could not identify flavor.

Fruit cake: Poor.

Date: Good.

Bon bons: Dry and hard.

Assortment: Good.

Remarks: Dark coating is not up to the



Give your candies that "Buy another" taste

WILBUR SUCHARD CHOCOLATE COMPANY, INC. • LITITZ, PA.

fair.

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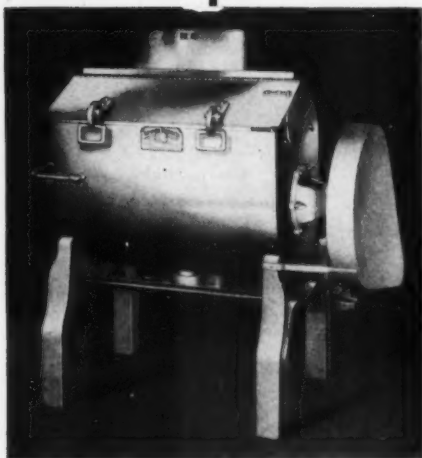
S

263

for

for Better Marshmallows

the **SAVAGE BEATER**



... IS YOUR ANSWER. *The Savage latest improved sanitary marshmallow beater is constructed with stainless steel tank, shaft, paddles and breaker bars—100% sanitary.* This beater is considered standard by manufacturers. Built for strength and durability, it assures perfect manipulation of each batch. Hundreds of users in the United States and foreign countries prefer the Savage Beater for its economy in operation and performance in production, because it saves time, space, and operating cost. Four 200 pound Savage Beaters will supply a mogul for continuous operation.

THE FIRST COST IS THE LAST COST

- *Unexcelled for volume and lightness*
- *Stainless construction—100% sanitary*
- *No corners for contamination*
- *Outside stuffing boxes—no leakage possible*
- *Maximum beating for volume*
- *Faster heat discharge from batch*
- *Creates volume suction of cold air*
- *Large water jacket for quick cooling*
- *6" outlet valve for quick emptying*
- *Less power needed with roller bearings*
- *Large two piece air vent—sanitary*
- *Direct motor drive*
- *Size available: 200 lb. or 110 gal. capacity*

Savage oval type marshmallow beater also available with stainless water jacket, galvanized cast iron heads, paddles and breaker bars in 150 gallon and 200 gallon sizes.

SAVAGE BROS. CO.

M. A. Savage, President • Richard J. Savage, Jr., Vice President

2638 GLADYS AVE.

CHICAGO 12, ILL.

Since 1855



standard used on some other \$1.00 the pound chocolates we have examined. Some of the flavors need checking up. Box is too large for a one pound assortment.

Code 3E51
Assorted Chocolates
1 lb. for 80c

(Purchased in a department store, Chicago)

Appearance of box: See remarks.
Box: Two layer type, full telescope. White glazed paper top. Name embossed in gold.

Appearance of box on opening: Good. Cellulose over-wrapper on bottom.

Number of pieces:

Light coated: 21.

Dark coated: 7.

Bon bons: 2.

Coatings:

Colors: Good.

Gloss: Good.

Strings: Good.

Taste: Good for this priced chocolates.

Dark coated centers:

Pink cream: Could not identify flavor.

Vanilla cream: Good.

Maple nut: Good.

Bon bons:

Coconut cream: Poor flavor.

Lemon cream: Poor flavor.

Light coated centers:

Orange cream: Poor flavor.

Molasses cream: Good.

Pink cream: Could not identify flavor.

Ting ling: Good.

Lemon cream: Dry and poor flavor.

Nougat: Fair.

Cream: Could not identify flavor.

Molasses coconut: Good.

Hard candy blossom: Good.

Vanilla caramel: Good.

Chocolate cream: Fair.

Caramel & Cream: Fair.

Assortment: Good.

Remarks: Suggest flavors be checked up as they are not up to standard used in this price field. Box had some dirty spots on top. Suggest a cellulose wrapper.

Code 3F51
Assorted Chocolates
14 ozs. for \$1.00

(Purchased in a candy store, Chicago)

Appearance of package: See remarks.

Box: One layer type, buff paper top—print of spray of red roses. Name in yellow.

Appearance of box on opening: See remarks.

Number of pieces:

Dark coated: 13.

Light coated: 11.

Cellulose wrapper caramels: 2.

Coatings:

Colors: Good.

Gloss: Good.

Strings: Good.

Taste: Good.

Dark coated centers:

Lemon cream: Good.

Vanilla creams: Good.

Chocolate cream: Good.

Buttercreams: Good.

Maple nut cream: Cream good, flavor poor.

Date: Good.

Fruit nougat: Good.

Nut nougat: Good.

Sponge chips: Good.

Peanut clusters: Good.

Light coated centers:

Ting ling: Good.

Nut cream: Good.

Buttercream: Good.

Vanilla caramel: Good.

Cream: Could not identify flavor.

Nut nougat: Good.

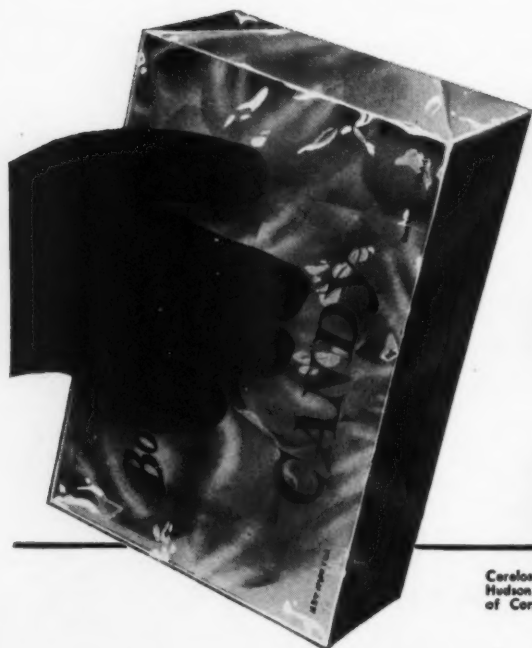
Orange cream: Very weak in flavor.

Cellulose wrapped caramels: Good.

Assortment: Good.

Remarks: One of the best boxes of assorted chocolates we have examined recently at this price. For parcel post or express shipping, we suggest at least two dividers be used, because five pieces were broken. Box was finger marked; suggest a cellulose wrapper.

Consumers buy...
that extra "plus" of
dextrose food-energy sugar



CERELEASE
brand
dextrose

PURITOSE
brand
corn syrup

GLOBE
brand
corn syrup

make your candies with

CERELEASE

PURITOSE • GLOBE

CANDY manufacturers can depend on the uniform high quality and fine performance of these products.

Full technical service, no obligation

CORN PRODUCTS REFINING COMPANY

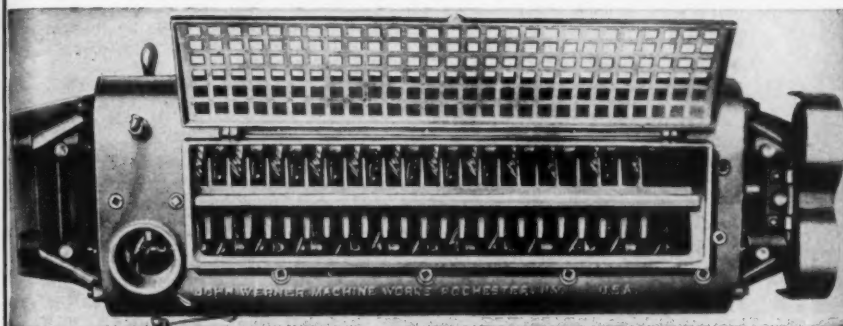
17 Battery Place

New York 4, N. Y.

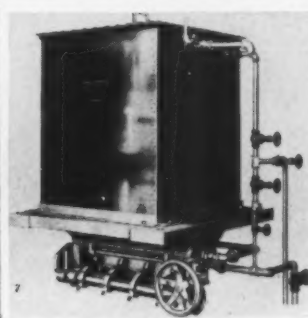
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THE WORLDS *LOWEST COST* PRODUCER OF FONDANT



2 Cylinder Snow Flake Fondant Beater



Peerless Fondant Cooler

The Greatest name in Fondant Equipment

- Perfect Beating and Cooling, plus super-aeration. • Frictional heat removal by ventilation and water jacket.
- The Werner "Uniflow Coil" gives uniform cooling, which results in uniform Beating.
- The lowest cost per pound of quality Fondant. • It's Lifetime equipment.

"There is No Substitute for Experience".

JOHN WERNER & SONS, INC.

713-729 Lake Ave.

Rochester 13, N. Y.

Code 3G51

Assorted Chocolates

1 lb. for \$1.00

(All Creams)

(Purchased in a chain store,
New York City)

Appearance of package: Good.

Box: One layer type, white printed in green, pink and blue. Imprint of old fashioned man and lady. White paper wrapper printed in silver.

Appearance of package on opening: Good.

Number of pieces:

Dark coated: 23.

Light coated: 11.

Coatings:

Color: Good.

Gloss: Good.

Strings: Good.

Taste: Good.

Dark coated centers:

Lemon creams: Good.

Buttercream: Good.

Coconut creams: Good.

Raspberry cream: Flavor not up to standard.

Orange cream: Cream good, flavor fair.

Chocolate cream: Cream "slimy", not a good eating cream.

Light coated centers:

Maple cream: Good.

Buttercreams: Good.

Chocolate cream: Fair.

Nut cream: Good.

Assortment: Fair.

Remarks: Suggest chocolate cream be checked, also some of the flavors. Suggest a coffee, peppermint and wintergreen cream be added to improve the assortment.

Code 3H51

Assorted Chocolates

1 lb. for \$1.00

(Purchased in a department
store, Chicago)

Appearance of package: Good.

Box: One layer type, brown, name embossed in gold. Cellulose wrapper.

Appearance of box on opening: Fair.

Number of pieces: 28.

Coating: Dark:

Color: Good.

Gloss: Good.

Strings: Fair.

Taste: Good.

Centers:

Maple cream: Not a good maple flavor.

Coffee cream: Good.

Buttercream: Good.

Chocolate cream: Good.

Assortment: Entirely too small for a one pound assortment.

Remarks: Some flavors are not up to the standard used in this priced chocolates. Box is too large. The box should be labeled "assorted creams".

Code 3I51

Assorted Chocolates

1 lb. for \$1.15

(Purchased in a department
store, New York City)

Appearance of package: Good.

Box: White glaze paper, two layer type. Gold seal in center printed in black. White paper wrapper. Paper pleated on top, tied with red ribbon.

Appearance of box on opening: Good.

Number of pieces:

Dark coated: 28.

Light coated: 23.

Jordan Almonds: 2.

Coating:

Colors: Good.

Gloss: Fair.

Strings: machine: Poor.

Taste: Good for this priced chocolates.

Dark coated centers:

Brazils: Good.

Date: Good.

Nut taffy: Good.

Chips: Good.

Sponge: Good.

Vanilla caramel: Good.

Nut nougat: Fair.

Nut cream: Fair.

Jelly and marshmallow: Fair.

Cordial cherries: Good.

Pineapple core: Fair.

Dark cream: Could not identify flavor.

Cordial pineapple: Good.

Peppermint cream: Poor peppermint flavor.

Maple cream: Poor flavor.

Filbert cluster: Good.

RIBBONS
for your *Candies*

Satins • Moirés • Taffeta
Gros-Grain • Rib-on-nit
Rayon and Chiffon

R. C. TAFT CO.
111 NORTH CANAL STREET
CHICAGO 6, ILLINOIS

Light coated centers:
Sponge: Fair.
Glace Pineapple: Good.
Filbert cluster: Good.
Date: Good.
Jelly and marshmallow: Fair.
Peppermint cream: Not a good peppermint flavor.
Nut cream: Fair.
Vanilla caramel: Good.
Nougat: Fair.
Cordial Pineapple: Good.
Cashew: Good.
Jordan Almonds: Good.
Assortment: Good.
Remarks: One of the best boxes of assorted chocolates we have examined in some time.

Vanilla fudge: Good.
Green colored cream: Could not identify flavor.
Nut taffy: Good.
Jelly: Could not identify flavor.
Orange cream: Fair.
Nougatine: Good.
Bag decorated almond: Good.
Coffee cream: Good.
Strawberry cream & jelly: Good.
Assortment: Too small.
Remarks: Suggest some of the flavors be checked up. Suggest at least five or six different kinds of centers be added to improve assortment. A very good milk coating for this priced chocolates.

(Please turn to page 62)

**CODE DATING
CANDY BARS**

Automatic—Any Speed
5 to 10 Built-in Digits
Permits quality control and
proper stock identification

KIWI CODERS CORP.
3804-06 N. Clark St., Chicago 13, Ill.

Code 3J51
1 lb. for 98c

(Purchased in a chain drug store, New York City)

Appearance of package: Fair; see remarks.
Box: Two layer type, full telescope. Deep purple paper top printed in yellow. Cellulose wrapper.
Appearance of box on opening: Good.
Number of pieces: 44.
Coating:
Color: Good.
Gloss: Poor.
Strings: Poor.
Taste: Good.
Centers:
Vanilla caramel: Fair.

CONVEYORS

Corrigan bulk dry sugar handling and storage systems convey sugar from unloading point to storage and from storage to production.

Improve production facilities
Lower operation costs

J. C. CORRIGAN CO. INC.
41 Norwood St., Boston 22, Mass.

SPEAS

APPLE PRODUCTS
the Standard of Quality
for sixty years

NUTRL-JEL

for preserves, jams,
jellies, marmalades

CONFECTO-JEL

for jellied candies

Powdered *Apple* Pectin
for CONFECTIONERS

CONCENTRATED APPLE JUICE

Plants in Apple Regions From the Atlantic to the Pacific
SPEAS COMPANY, General Offices, Kansas City 1, Missouri

Confectioners' Briefs

• **Peter Paul, Inc.**, Naugatuck, through President John H. Tatigian, has announced the appointment of Gudolf M. Poverud as Plant Manager here.

Mr. Poverud has been Plant Manager of Peter-Paul in Dallas, Texas, for the last two years. Robert de Raismes, Assistant Plant Manager in Dallas, has been named acting Plant Manager, succeeding Mr. Poverud.

Other personnel changes announced by Mr. Tatigian were:

Miss Genevieve F. Coen, Office and Credit Manager of Peter Paul, Inc., has been appointed Assistant Secretary of the company. Miss Coen, who has been with the company for 24 years, served as personal secretary to the late Calvin K. Kazanjian, President of Peter Paul.

William A. Sieber, Assistant Plant Manager of Peter Paul in Philadelphia, has been appointed acting Plant Manager. Mr. Sieber, with the company since 1945, succeeds C. Ralph Yarnall. The Philadelphia plant produces Walnettos, Choclettos and Coconettos.

• **W. A. Yantis**, president of Chase Candy Co., St. Louis, has become a director of the National Confectioners' Association, to serve until 1952. He will represent the midwest trading area. Smith H. Cady, Jr., merchandising manager, has been named to the Council on Candy Committee of the Association.

• **Gregor Shops**, New York, are offering a "Spotlight Assortment" designed with TV in mind. Concealed inside the cover of the hinged box is a miniature spotlight which turns on automatically as the lid is raised. This saves TV-viewers trouble of turning on a light to choose their candies.

• **The D. L. Clark Company**, Pittsburgh, honored



Mr. P. A. Staples, president of the Hershey Chocolate Corporation, accepts award presented by Mr. Maurice C. Dreicer of the Food, Beverage and Tobacco Testing Bureau given for excellence of product.



Alfred Goodman receives a special award for 32 years service from David L. Clark, Jr. Also shown is Mrs. D. L. Clark, Sr., wife of the founder.

114 members of its "Twenty Year Club" at a dinner. Awards of gold wristwatches were made to the thirteen newest club members, all of whom have been employed for more than twenty years. The thirteen, all Pittsburghers, were Chester T. Ackerman, Antonio Comas, James E. Coyle, John R. Goddard, Constant J. Kalinowski, Marie B. Leibach, Carl Lukitch, Anna Marticko, Andrew Natale, W. C. Schwenke, Anna Soko, Bertha Staab, and Victoria S. Torasso.

The presentation of the awards was made by David L. Clark, Jr., Executive Vice President, a 32-year service man himself, and a son of the founder, D. L. Clark, Sr.

Nominated for special honors were Nunzio Perugini with 46 years of service, E. O. Long, former Secretary of the company with 44 years, and Frank Austini with 41 years. The Clark Twenty Year Club now has a membership of 77 men and 37 women whose total service equals 2,902 years.

• **Barricini Candy Co.**, New York, has added to their long line of confections—Barrie-Parees, an entirely new grouping of French chocolates, packaged in a colorful box, emblazoned with a French motif.

• **The Curtiss Candy Company** "20 Year" Club neared the 200 membership mark with the presentation of pins by Otto Schnering, company founder and president to 9 more employees. The club now has 194 members with 20 or more years of company service, 80 of them having in excess of 25 years.

• **Beech-Nut Packing Company** will honor a handling charge of two cents for each Beech-Nut courtesy card or coupon redeemed by their company representatives or coupons that are mailed direct from the customer's place of business to the Beech-Nut Packing Company, Canajoharie, N. Y.

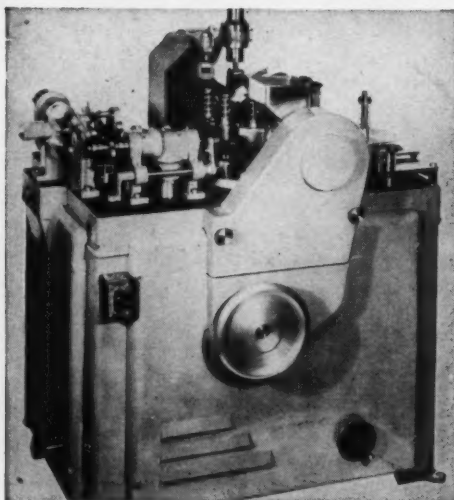
• **Sperry Candy Co.**, Milwaukee, is taking occupancy of its new plant addition at 133 W. Pittsburgh Ave. The five story building measures 20x100 feet and cost \$200,000. The addition adds one-third to the plant's space, making room for new machinery for increased output, estimated at a gain of 25%.

Chocolate Coatings

by Ambrosia

AMBROSIA CHOCOLATE CO. MILWAUKEE 3, WISCONSIN

LATINI *Continuous* DIE POP MACHINE



- high speed production
- controlled weight & size of pops
- interchangeable dies
- guaranteed performance
- economical operation

CHOCOLATE SPRAYING CO., INC.
2035-39 W. GRAND CHICAGO 12, ILL.
Rep. John Sheffman Inc., 152 W. 42nd St., New York 18, N. Y.



Alfred E. Benolken.
New sales manager.

• Alfred F. Benolken has been appointed sales manager of Sweetest Maid Candy Division of Griggs, Cooper and Co., St. Paul, as announced by Milton W. Griggs, president. Mr. Benolken has spent 26 years with the company and 24 years as salesman and sales supervisor.

• E. J. Brach & Sons, Chicago, is reported to have boosted its sales of candy in the calendar year 1950 about 20%, to \$38 million. In January sales showed an increase of about 10% over the like 1950 month.

• Chase Candy Co., St. Louis, have just released a newly-revised candy sales training manual, "How to Sell Candy at Retail". The manual is written by Smith H. Candy, Jr., merchandising manager of the company, and the foreword is written by W. S. Yantis. Chase Candy Company is celebrating its diamond jubilee and as a part of the celebration is offering the manual to all retailers interested in improving their merchandising of candy, without charge as a service to the trade.

Automatic Canteen Company of America, Chicago, released their annual report showing sales, rentals and other income for the year ended September 30, 1950, amounted to \$23,409,184, compared with \$21,772,698 the year before. Canteen Company has become a wholly owned subsidiary of the Company. The management has promoted the production of ten cent bars. Customer acceptance of the ten cent bar has been found to be quite satisfactory and the volume of such sales is increasing from week to week.



Leonard D. Griffiths,
Vice-president

• Leonard D. Griffiths, vice president in charge of operations in the New York district for Fanny Farmer Candy Shops, Inc., has been appointed to the executive staff at the company's general offices in Rochester, where he will be associated with James F. Burke, executive vice president. James C. Drury, New York district sales manager becomes New York district manager in charge of sales and production.



Bert A. Torr, Superintendent,
Candy Division, Griggs, Cooper
and Co.

• Bert A. Torr has been appointed superintendent of the Candy Division of Griggs, Cooper and Co., St. Paul, according to an announcement made by Milton W. Griggs, president. Mr. Torr was formerly superintendent of Queen Anne Candy Company, Hammond.

Jack Schar, president of Boulevard Candy Company, Chicago, announces that Joseph H. Salzer, for the past 20 years sales executive of Nutrine Candy Co., has joined the Boulevard organization as vice president and sales director.



John J. Tatigian, new president
of Peter Paul, Inc.

• Peter Paul, Inc., announced the election of John H. Tatigian, formerly vice-president and general manager, as president. George Shamlian, formerly president, is now chairman of the board. Mr. Shamlian was one of the founders in 1919 of Peter Paul, Inc. He will continue in charge of West Coast operations. Mr. Tatigian has been with Peter Paul, Inc., since 1931.

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KRIST-O-KLEER makes candies taste better! Because KRIST-O-KLEER Invert Sugar controls moisture—it helps keep the true, fresh flavor from drying out of candies.



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KRIST-O-KLEER makes candies keep better! Candies made with KRIST-O-KLEER stay fresher—because this uniform invert sugar helps retain moisture, even upon exposure to air and low humidity!

Order today from National's full line of KRIST-O-KLEER invert and partial invert sugars.

**THE NATIONAL
SUGAR REFINING CO.**

New York, N.Y. and Philadelphia, Pa.

Brownfield & Bird, Chillicothe, Mo., has been sold to Robert T. Reynolds of Kansas City. John T. Brownfield established the company fifty-five years ago and it has been operated by members of the family since.

• **Loft Candy Corp.**, New York, has purchased the Margaret Penn Candy Co., Philadelphia, a fifty-year old candy chain store system operating nine retail outlets in the Philadelphia area.

• **Griggs, Cooper & Company**, St. Paul, have appointed T. N. White of Indianapolis as broker to represent them in the state of Indiana. The Hosier Brokerage Company of Oklahoma City is representing them in Oklahoma and Arkansas.

• **M. Romanoff Products**, candy manufacturers, have leased a floor at 65 Clinton St., Newark, N. J.

• **Dr. Donald K. Tressler** has been appointed scientific director of Quartermaster Food & Container Institute for the Armed Forces. Dr. Tressler brings to his new post a wide knowledge of food science and technology and many years of association with research and development workers and industrial executives in the food and container fields.

• **The Peerless Confection Co.**, Chicago, has leased the entire fourth floor, 10,000 square feet in the Hobbie warehouse. The premises will be used to store candy and packaging materials.

• **Harry C. Nieland** has purchased a substantial interest in Zachary Confections, Inc., Chicago, has been announced by J. J. Zachary, president of the company. Mr. Nieland for the past fourteen years has been Division Manager for Nutrine Candy Company.

Standards for Determining the Quantity of Scorched Particles In Dry Milks

The U. S. Department of Agriculture today issued standards for use in determining the amount of scorched particles in dry milks. The standards consist of four discs, each bearing a specified amount of scorched particles to represent the amount which would be filtered from a stated quantity of reconstituted dry milk. The respective amounts of scorched particles represented on the discs are 7.5 mg., 15.0 mg., 22.5 mg. and 32.5 mg.

Department officials explained that the need for the standards came about as the result of two developments: (1) the development by USDA of an accurate filtration method for roller process nonfat dry milk solids, and (2) the determination that the material previously referred to as "sediment" in reconstituted dry milks is largely scorched protein material. They stated that the standards issued today will make possible the use of the two developments in making representative tests for scorched particles. In addition to this function, the standards will provide the Department with standards for determining scorched particles as a grading factor in dry milk products and will make available to the dairy industry a uniform set of such standards for its use.

The standards were prepared by members of the Dairy Branch of the Production and Marketing Administration in consultation with representatives of the dry milk industry.

At Your Finger Tips

TECHNICAL INFORMATION

For Every Candy Library

A good candy library will effectively answer ever-occurring technical questions with instant, complete satisfaction. Let the experts work for you. Turn their knowledge into greater profits for your firm. The books listed here are carefully selected to help make your candy library an authoritative, finger-tip source of profit-making, time-saving technical information. For your convenience, you may order any book by number—just mention the issue in which this list appears.

- 1—**Chemical Formulary, Volume VIII**
Edited by H. Bennett, F.A.I.C.\$7.00
- 2—**The Trade-Mark Act of 1946**
By Harry A. Toulmin, Jr.\$5.00
- 3—**Confectionery Analysis and Composition**
By Dr. Stroud Jordan and Dr. K. E. Langwill ..\$3.50
- 4—**Glycerine**
By Georgia Leffingwell, Ph.D. and Milton A. Lesser, B. S.\$5.00
- 5—**Candy Production: Methods and Formulas**
By Walter Richmond\$10.00
- 6—**Spice Handbook, The**
By J. W. Parry\$6.50
- 7—**Introduction to Emulsions**
By George M. Sutheim\$4.75

- 8—**Chemical Composition of Foods, The**
By R. A. McCance and E. M. Widdowson\$3.75
- 9—**Food Products**
By Saul Blumenthal\$12.00
- 10—**Chemical and Technical Dictionary**
Edited by H. Bennett\$10.00
- 11—**Air Conditioning**
By Herbert and Harold Herkimer\$12.00
- 12—**Food Regulation and Compliance**
By Arthur D. Herrick\$10.00
- 13—**Practical Emulsions**
By H. Bennett\$8.50

THE MANUFACTURING CONFECTIONER

9 South Clinton St.
Chicago 6, Illinois

News of Associations

National Confectioners' Association Washington Committee held a meeting in Washington, D. C. February 1 and 2.

The meeting was called to allow a complete review of the effects of the U. S. mobilization program on the candy industry and what action NCA can take to aid candy manufacturers in meeting present problems.

Members heard a discussion of the structure and scope of authority of the National Production Authority by R. W. Murphy, Industry Operations Bureau, National Production Authority, U. S. Department of Commerce.

Clarence Mills, Director, Government Affairs Department, U. S. Chamber of Commerce of the U. S., spoke on the current legislative situation as it affects business.

At their meeting on Friday, the Washington Committee approved submittal of a statement with respect to the use of agar-agar in confectionery to the Food and Drug Administration. The statement included evidence supporting the opinion that agar-agar is a natural gum and that it is not non-nutritive.

Extensive discussion was also given to the current tax situation and the possible methods of securing additional governmental revenue by increasing personal and corporation income taxes and the extension of selective excise taxes at either the manufacturers' or retail level. A report on industry packaging needs in relationship to the availability of packaging materials such as foils, metals for cans and closures, corrugated and other papers was reviewed.

Committee members also discussed what action if any NCA should take on price regulation orders issued by the Economic Stabilization Administration and which are already presenting difficulties for some manufacturers due to the fact that prices can still be increased on the many agricultural products used for candy ingredients.

Boston Confectionery Salesmens Association will hold their annual convention on June 22-24 at Wentworth By the Sea, Portsmouth, New Hampshire. Jesse C. Lesse is president of the Club.

Southern Wholesale Confectioners' Association, Inc. have elected Alice Jones Erickson as executive secretary-treasurer of the Association. Mrs. Erickson was on the staff of the Association for 16 years, serving as assistant secretary.

Association of Manufacturers of Confectionery and Chocolate of New York were co-sponsors with the National Confectioners' Association of a meeting in New York on confectionery sanitation. Mr. Doolin was the principal speaker.

The Pennsylvania Manufacturing Confectioners' Association will hold its fifth annual production conference at Lehigh University April 26 and 27, Hans F. Dresel, Philadelphia, chairman, announced this morning.

The conference, especially designed for plant superintendents and foremen of candy-making firms, is sponsored by the confectioners and the Lehigh University Institute of Research. More than 200 delegates are expected to attend the two-day sessions.

New developments and trends in manufacturing, storing, and retailing of candy will be topics for discussion at the various panel meetings. A feature of this year's conclave will be the banquet on Thursday evening. This year a typical Pennsylvania Dutch dinner has been planned.

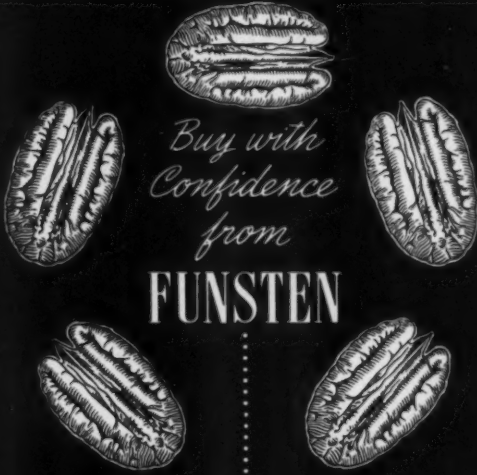
Officers of the association are president, Anthony Napolitan, Buttonwood Candies, Reading; vice-presidents, Marc J. Heidelberger, Heidelberger Confectionery Co., Philadelphia; David Sykes, Plantation Chocolate Co., Philadelphia; and C. S. Grube, Wilbur-Suchard Chocolate Co., Lititz; secretary, Harry H. Rohrer, Elizabethtown; treasurer, Robert F. Keppel, Keppel's Inc., Lancaster.

National Sweetest Day Council at a meeting of directors and members in New York City, elected Harry H. Simpson of Illinois Fannie May Candy Company, Chicago, as president, succeeding Charles H. Welch, Jr., of Fred Sanders Company, Detroit. George Frederick, Loft Candy Company, New York City, and S. W. Neill, Mrs. Snyder's Candies, Chicago, were re-elected first and second vice presidents, respectively. Five directors whose terms expired in 1950 were named directors for an additional three years: Hester Browne, Coro, Inc., New York City; Vene Perry, Detroit Candy Company, Detroit; Robert Stoddard, Gibson Art Company, Cincinnati; M. M. Stone, American Greeting Publishers, Cleveland; and Herbert Tenzer, Barton's Bonbonniere, New York City.

A program designed to consolidate progress on Sweetest Day to date and to expand where keen interest is shown on the part of confectioners and other groups in leading cities has been approved by the Board of Directors. Favorable reports from cities which participated in the celebration in 1950 assure continuance of activity all over the country. The National Council will assist with advice and counsel on both general and specific problems any groups which wish to undertake Sweetest Day campaigns in their vicinity in 1951. Sweetest Day will be celebrated on Saturday, October 20, in 1951. Sidney Bielfield will again act as executive director of the Council in 1951. Further plans will be announced shortly after a meeting of the officers.

British Industries Fair is being held in London and Birmingham, England, from April 30th to May 11th. More than 100 industries will exhibit their wares in one million square feet of space. Confectionery items will be displayed as well as equipment for the industry.

Ellsworth Bunker, recently nominated by President Truman as Ambassador to Argentina, is chairman of the Board of the National Sugar Refining Company, and chairman of the U. S. Cane Sugar Refiners Association. The sugar industry will give a dinner March 2nd in honor of Mr. Bunker.



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Marshmallow Research Foundation

Establishment of the Marshmallow Research Foundation to develop new uses for marshmallows as a food and a confection has been announced by Paul D. Allman, acting chairman of the newly created group.

Supported by the nation's top marshmallow manufacturers, the Foundation will direct an intensive research and public educational program designed to expand and promote the use of marshmallows commercially and in the home. In addition, the Foundation will concern itself with new merchandising techniques which will be made available to retailers to boost their marshmallow sales and profits.

The public relations firm of Theodore R. Sills and Company has been retained by the Foundation to carry out the program. Research and development work on new uses for marshmallows will be conducted in test kitchens in New York.

Paul D. Allman, who is vice president of The Cracker Jack Co. is acting chairman of the committee which will supervise the Foundation's activities. Other members include W. B. Riley, Brock Candy Company; J. E. Long and Paul Flum, Shotwell Manufacturing Company; Charles Supplee, Frantz Candies, Inc.; K. E. Madden and Nathan Cohen of Candyland, Inc.

Fat Soluble Certified Food Color For Summer Coating

At a recent meeting in New York chapter of the American Association of Candy Technologists there was a good deal of discussion on the use of water soluble colors in the oils for summer coatings. Mr. W. F. Fisher, sales manager of Magnus, Mabee & Reynard, Inc., New York was very helpful and gave the following:

3-4 ozs., preferably 3 ozs., of any primary color or combinations of primary colors added to one gallon of PROPYLENE GLYCOL in a double boiler and cooked while constantly stirring for one half hour at about 160° F. Do not allow the mixture to become scorched as the constant stirring of the mixture is what produces the most satisfactory results.

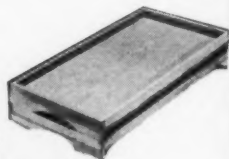
The colors when in finished form will keep indefinitely and need no preservative. They will produce anywhere from a wide range of deep colors to pastel shades.

All colors used in food must be Certified food colors.

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Masonite and Solid Wood Tongue and Grooved Glued Bottoms
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Supply Field News



Gilbert Holmberg new president of John Sheffman, Inc.

John Sheffman, New York, announced the formation of John Sheffman, Inc., with Gilbert Holmberg as president and John Sheffman as executive vice-president. E. I. Sheffman has been named secretary and treasurer. John Sheffman is a name synonymous in the confectionery field with quality machinery and equipment. Mr. Sheffman has built a solid reputation over a period of many years as a national representative for a broad line of machinery. He is known from coast to coast as a friend of the candy manufacturer. The firm is new in name only as Gilbert Holmberg, a graduate engineer, has been associated with Mr. Sheffman for a number of years. Recently Ben-Moore Manufacturing Company of Brooklyn, makers of stainless steel equipment, has announced the appointment of John Sheffman, Inc. as their national sales representative.

• **Durkee Famous Foods Division** of the Glidden Company has appointed Frank H. Daniels as sales promotion manager. Mr. Daniels succeeds A. E. Ostling, who has been appointed administrative assistant to J. Califf, general manager of the Central Margarine Division of Durkee in Chicago. Prior to his present appointment Mr. Daniels had been assistant sales manager, regional merchandising manager, supervisor of sales personnel, and executive assistant at Elmhurst, L. I. The appointment of Robert W. Wright as executive assistant for the Condiment and Coconut Division was announced by Paul D. Hursh, manager of the Elmhurst Division.

• **General Foods Corporation**, New York, is contemplating moving a major part of its general offices out of New York city. Options on property in White Plains have been taken.

• **Dodge & Olcott Inc.**, New York, has recently shown for the first time a new sound color motion picture, an interesting documentary film on the subject of vanilla, "Make Mine Vanilla". Portions of the film were photographed by Mr. James Schmidt, manager of Dodge & Olcott Vanilla Department while on vanilla bean buying trips to Mexico. The company has ordered several prints

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MATERIALS • METHODS • SERVICE

Technical Service Representatives in Principal Cities of U. S. & Canada



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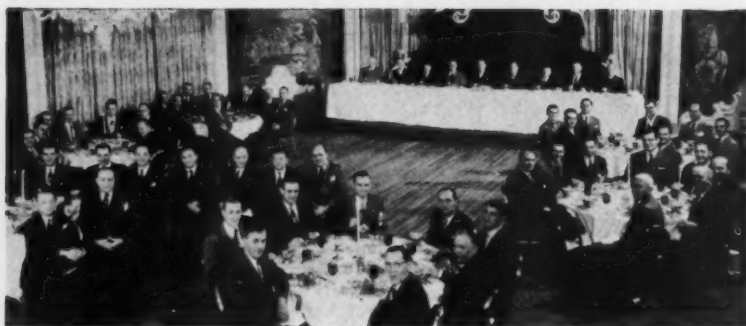
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MM&R sales and executive staff dinner held on January 6, 1951 at the Hotel Belmont Plaza, New York at the conclusion of the 4-day sales conference.

• **Magnus, Mabey & Reynard Inc.**, New York, concluded a 4 day conference of the sales, executive and technical staffs with the prediction that 1951 would be a banner year for MM&R. Percy C. Magnus, president, announced that the sales staff would be augmented by addition of several new men. Dr. Downey, vice-president and director of technical research discussed new developments in the use of essential oils and allied products. The 4 day session was concluded with a dinner presided over by R. B. Magnus, vice president. At the dinner Dom Bellavigna, superintendent of production, was inducted into the 20 Year Club. J. B. Magnus, vice president, revealed some interesting facts from the archives of the company that dated back as far as 1895. Sidney M. Weiss pin-headed the direction of the advertising to be placed in 1951.

• **Clinton Foods, Inc.**, Clinton, Iowa, has just issued a consolidated report for three months period, end-

ing December 31st. Profit before taxes for this period in 1950 was \$1,422,620 as against \$593,825 for same period in 1949. Taxes were estimated for 1950 at 47% of profit.

• **Elmer G. Derby** has been appointed New England broker for the bulk sales of the entire line of chocolate products for Wilbur Suchard Chocolate Co., Inc., as announced by Charles S. Grube, vice president and director of bulk sales for the company. Mr. Derby recently resigned as bulk sales manager of the Walter Baker Chocolate and Cocoa Division of General Foods. His office will be located at 131 State Street, Boston. Mr. Derby has had 22 years experience in the chocolate business.

• **American Maize Products Company**, New York, will continue to "sell" its customers, with a heavy emphasis on service, Charles H. Sanford, manager of bulk sales, said at the department's annual sales conference. The conference was marked by plant tours, round table trouble-shooting, and a quick course in starch chemistry, complete with laboratory demonstration.

• **James B. Long & Company**, Chicago, announces the appointment of Walter C. Hansen as technical director. Mr. Hansen was formerly research chemist for Swift & Company, and most recently chief chemist for Morton Salt Co.

• **Schimmel & Co., Inc.**, New York, announce the publication of their annual report on essential oils, aromatic chemicals and related material 1947-1948.

• **Wm. J. Strange Co.**, Chicago, have appointed W. Earl Anderson sales representative for the states of Texas, Oklahoma, New Mexico, Colorado and Western Kansas, where he has been associated with the food processing industry for more than 20 years. Thurst Lind, Jr., representing that territory, has been transferred to Michigan, with headquarters in Detroit.

• **Merck & Co., Inc.**, Rahway, N. J., has appointed Dr. William M. McLean vice-president for marketing. As director of commercial development and more recently chairman of the marketing committee at Merck, Dr. McLean has been concerned with the development of products, markets and marketing policies and with the coordination of sales activities. The company has recently purchased the business and assets of Marine Magnesium Products Corporation of San Francisco. Merck & Co., Inc., for many years has been interested in establishing manufacturing operations on the west coast.

• **Edmund Opler**, president of Cook Chocolate Co., Chicago, has been elected to membership in the New York Cocoa Exchange.

NEW REVOLVING PAN

by
LATINI



- heavy gauge copper machine spun bowl
- convenient on-off switch with overload switch
- shaft mounted on self-aligning ball bearings
- stand enclosed, easily cleaned. Sanitary
- perfectly balanced for accurate operation

CHOCOLATE SPRAYING CO., INC.

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Chicago 12, Ill.

Rep. John Sheffman, 152 W. 42nd St., New York 18, N. Y.

● **Dr. Ernest Guenther**, vice president and technical director of Fritzsche Brothers, Incorporated, New York, has returned from visits to West Indies, Mexico, Central and South America. Dr. Guenther found the essential oil situation most encouraging. He is convinced that most of the essential oils and spices that were formerly imported from the tropical Far Eastern countries can gradually be produced in the tropical regions and South and Central America, providing organized and intelligent research is carried out in localities that are suitable with respect to altitude, climate and soil.

● **Edward V. Killeen** has completed 60 years with George Lueders & Co., New York. As a tribute to this unusual and unique record, Mr. Killeen was the guest of honor at a dinner given him by the officers and directors of the company.

● **John A. J. Wynmalen**, former president of Polak & Schwarz, Inc., New York, passed away at the age of 63 after a brief illness. Mr. Wynmalen started his career with Polak & Schwarz thirty five years ago in Holland. He came to United States and later became president of the company in New York in 1935. He was chairman of the board at the time of his death.

● **Davis & Company**, Cleveland, has announced the appointment of Joseph R. Martin as mid-western sales manager to head the firm's new Chicago office. Mr. Martin has been an active figure in the flavor and essential oil fields for the past ten years.

● **Clinton Foods Inc.** has announced the appointment of Ray E. Mikkelsen as manager of their Chicago office to succeed Walter M. Krafft, who retires March 1st. Mr. Mikkelsen has been with Clinton Foods for 24 years, his last position being assistant manager of Bulk Starch Sales with headquarters at Clinton. In addition to his experience at the main plant in Clinton, he has traveled extensively all over the country for the company, covering the outside trade.

John M. Search has been named manager of Clinton Foods New York sales office handling corn products, according to Carl Whiteman, vice president. Mr. Search, who has been in the corn refining industry since 1928, was connected with the Benham Company prior to his joining Clinton Foods in 1949.

● **Julian S. Scholl** has been appointed manager of Grocery Products Division of Nestle's Chocolate Company, Inc., New York.

BURCO Products . . . "BEST by TEST"

NU-KREME—Grade A of all Nougat Creams.

DIPPING PIECES—Molasses Honeycomb Chips, Peanut Butter Chips, Toasted Coconut Chips, Chocolate Center Chips, Almond Butter Sticks, Mint Pillows and Peanut Butter Pillows.

BURCO NOUGAT CREME—The All Purpose Nougat Cream.

TOPPINGS—Marshmallow, Butter-scotch, Caramel and Chocolate Fudge.

Formula Book "Recipes for Better Candies" sent with initial order

CONFECTIONERS PECTIN—For Cut Slab Jellies.

NU-MILK—Whole Milk in Plastic form for Caramels and Fudges.

FRESH COCOANUT PASTE—Ready to use for Chocolate or Bon Bon Centers.

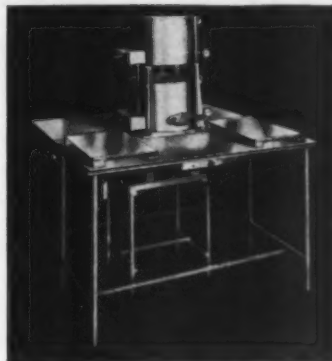
PECTOLENE—A Pectinized Invert Sugar Product.

CENTER-ROLL KREME—for Soft-flowing Creams.

KREME-TEX—For Creamy Fudges and Caramels.

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- Increases production of hand dipper 25 to 30%
- Insures high standard of gloss and uniformity of appearance
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- Table constructed in two sections, each equipped with automatic side-warming units to accommodate one dipper
- Standard table size 48" x 48"

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Complete equipment for the Manufacturing Confectioner
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By
Wesley H. Childs

Tells how you can re-use scrap candy ingredients without loss of value. Also, how you can reconstitute the raw materials to perform primary functions in first-grade goods. This booklet has chapters on

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2. **CHOCOLATE-COATED PIECES**
3. **GUM and PAN ROOM PIECES**

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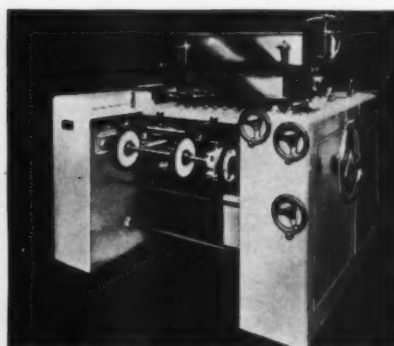
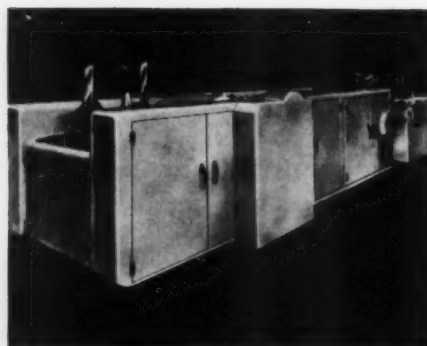
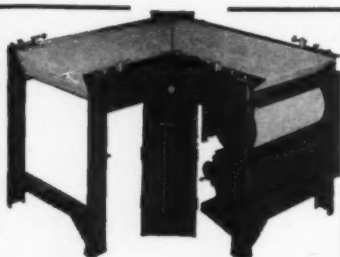
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The Mogul
and
The National Depositor

The Story of the Mogul and Depositor

(Continued from page 36)

most important devices on the machine, inasmuch as it regulates speed of trays passing through the Mogul, accelerating and de-celerating movement of trays in starting and stopping to prevent jarring of moulds.

The new Mogul is equipped with new style Thoroclean Sectional sieve, complete for quick removal of brush-lined sections. Brushes are of the metal-backed type to permit steaming of sections should they get smeared up with soft candy. Brushes are so arranged that they will permit any starch carried over to fall through the sieve and not interfere with the cleaning. The Sieve is operated with ball-bearing eccentric shaft and ball bearing eccentric connections, easily adjusted for required material travel. Crankshaft supported by additional ball bearing in center and fly-wheel installed on outside to reduce whip of eccentric movements and eliminate vibration of machine. Crankshaft of sieve driven by V-belts instead of chain.

The swinging brush has been speeded up by using new driving means. Blower supplying the air for the swinging brush is equipped with separate motor drive and inlet for air from outside of Mogul. Screw conveyor is now being supplied for tailing, which is a big improvement in the removal of tails. Tray leveler is now built of aluminum for greater strength and in an effort to eliminate all wooden parts in the Mogul. It is so designed that it will work smoother and keep the board full particularly around the edges so that the perfectly filled board is brought to the printer, making for better and more uniform moulding.

The drive motor -- Mogul is placed under the dumper gear box to improve appearance of machine. Steel universal joints replace cast iron ones. During the last two years Moguls have been equipped with automatic centralized greasing system, guaranteeing the proper lubrication of machine and reducing wear and tear of parts. The lubricating system can be either a one-or three-shot system.

The National depositor is built in heavy frames, enclosed in heavy stream-lined steel covers, equipped with large doors for easy access. The depositor is equipped with ball bearings wherever feasible; drive parts are completely closed in under machine to permit steaming of depositor. Adjustment control parts are on the outside of inner steel frame for easy access through door of outside cover. All adjustments for tray and pump bar can be made while the depositor is running and any adjustment, be it center distances between deposits, skip between trays or quantity of deposits, are made by hand-wheel from a standing position. Indicator plates are provided, visible while making adjustments.

The drive with variable speed arrangement in lower section of machine is covered entirely. Variable speed unit is used to obtain finest adjustments. All-stainless

steel hopper of sanitary construction made of heavy stainless steel plate. Inside and outside corners of hopper are rounded for easy cleaning. Stainless steel pan supplied under runway of depositor to catch all water and candy. Pan is provided with drain. Harmonic motion movement built directly into mechanism of machine.

An 18" handwheel for easy operating is installed for hand movement of tray on runway. Push button device of the start-stop-and jog type replaces the old style operating clutch. If explosion-proof motors are used, push buttons and controls will also be of the explosion-proof type. Lubricating systems have also been installed with great success. The only clutch on the machine is the one to start and stop the National hydro-seal pump bar, which since introduced in 1941 has been changed considerably. Due to its construction deposits are always uniform. They are made of Sanitary metal, harder than the bronze previously used—for longer life. Pistons are of stainless steel entirely requiring no replacement parts of any kind. Pump bars are supplied in various sizes and in multiple rows. For greater production and to eliminate operation of Mogul at too high a speed, double, triple, 4-row and 5-row pump bars are being supplied. 4-row and 5-row pump bars are usually used for very small pieces having 60 and 80 outlets per row. We consider the National Hydro-Seal pump bar the greatest innovation in the starch department that has been brought out in the last 20 years.

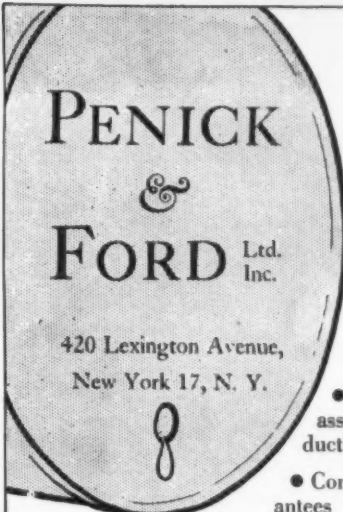
Candy Industries, Inc.

C. A. Friedrich, President, of Candy Industries, Inc., formerly of New York and Chicago, has announced his Company has leased a building on one of the main thoroughfares of San Gabriel, California, and has purchased additional candy equipment for the expansion of its specialized candy production operation.

This building is strictly modern, air conditioned, and with its 200 ft. depth will permit the installation of his modern cooling tunnels.

This Company will specialize in hard and filled candies, and special equipment is being installed to permit the volume production of Lollipops and specialties for several national organizations, and will distribute throughout the entire United States, Canada and Mexico, where they have contracts to supply individually designed Lollipops and novelties for the major banks, oil and gasoline companies and the larger advertising and promotional agencies. They have perfected unique advertising features and special designs for many candies.

Mr. Friedrich advises he is selecting additional candy brokers in various areas to handle his sales distribution.



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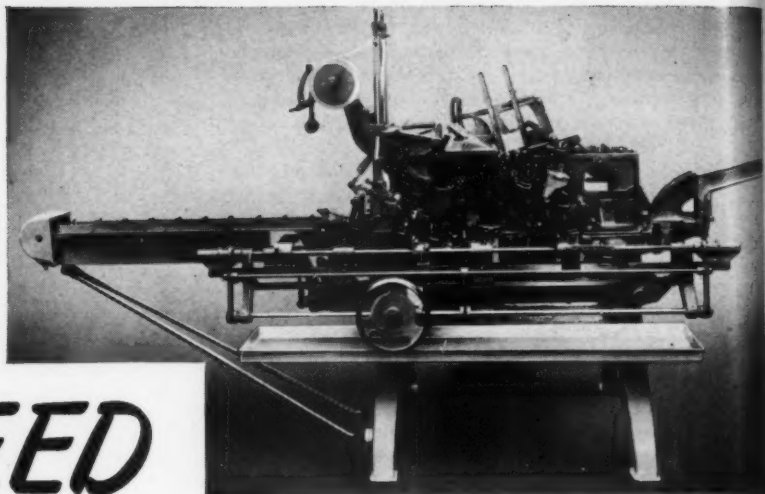
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This machine, which has a speed of from 80 to 150 pieces per minute, wraps the great majority of moulded chocolate bars with square edges, beveled edges and bars with rounded tops. It has also been adapted to the wrapping of caramels in printed cellophane without card and such varied items as book matches, headache powders, tape bandage, etc., incorporating an easy-opening tape in the wrap.

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The CA-2 is easily adjustable for a wide range of sizes and can accommodate very thin items (even single-edge razor blades) as well as the conventional types of rectangular products or packages.

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The article can be enclosed in a single wrapper of cellophane, glassine, foil or waxed paper with registered printing. The machine also makes a combination type of wrap, consisting of an inner wrapper and an outer printed band, or overall wrapper, glued on the ends and bottom seam.

Feeds of both conveyor and magazine types are available, conforming to the type of product wrapped. Automatic stops prevent material from being fed when no article is in position. Operator can stop feeding any time without stopping the machine.

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High Speed Packaging

W. P. SCHOMMER, *General Mills, Inc.*, spoke before the Twelfth Annual Forum of the Packaging Institute.

THE SUBJECT of high-speed packaging with cartons is extremely broad. There are several important phases connected with all high-speed packaging operations which must be carried out to the letter in order to obtain maximum output and quality at the lowest possible cost.

The major function of a packaging line is to make or set up the carton, form the liner (if one is required), fill the carton with product, seal the top, and then pack the individual packages into containers.

The first and most important step in planning a high-speed line is to purchase the best equipment available to do the particular job. The type and size of package and the nature of the product to be packaged will be the determining factors in purchasing the type of equipment to be used. These items will also be the determining factors in the speed of packaging which can be expected.

One of the most important phases of high-speed packaging is proper lay-out of equipment. Production losses and increased costs are accelerated by poor lay-outs. When planning the lay-out of equipment, it is advantageous to work closely with the machine manufacturers.

In order to get maximum efficiency out of the equipment, it must be so installed that it is easily accessible for both operators and mechanics and for the flow of empty package material to the lines. There must be sufficient space for storing these materials close to the machines. Operators should have sufficient room to move about their machines, and mechanics should be able to get to any part of a unit to make necessary adjustments and repairs. It is important that lines be laid out so that flow of finished packages is streamlined to the point of casing. If this is not done, extra labor will be needed to do the job.

Much thought should be given to installation of case sealers. Where several lines are involved, using the same size cartons and containers, one case sealer can be used if packing lines are properly laid out. This holds true for automatic, self-adjusting type sealers which will handle a range of sizes. Case sealers should be hung from the ceiling wherever possible to utilize space. These units can be reached by conveyor belts.

Much thought should be given to lay-out so as to keep labor requirements at a minimum. In the majority of cases with the straight-line lay-out an operator is used on the bottom sealer, an operator on the lining machine, another on the scales, and one on the casing. If the package maker is used in a straight-line operation, the liner operator is automatically eliminated because the lining machines are out. Further labor reduction can be accomplished with the straight-line set-up (multiples of two

Editor's Note: Much impetus has been placed on increasing production—make more product in the same amount of time. Equipment has been streamlined. Shorter methods of processing have been found. This age has seen the Jet Planes emerge and give us HI-Speed.

Candy is being merchandised as never before. Super-markets and chain stores are selling 'handy-paks' of an endless variety of candies in odd weights at tempting prices. Obviously, the packaging must keep pace with the fabrication.

General Mills, Inc. is a leading manufacturer of cereals, flour and prepared mixes which are expertly merchandised and distributed. Though the packaging of cereals and cake mixes may seem foreign to the candy manufacturer, the fundamentals are the same. Mr. Schommer speaks from experience and his thoughts on HI-Speed packaging merit your attention.

lines are involved) by turning the scales in toward each other and using one operator for two scales.

There are still other lay-outs which offer potential savings. One of these is the so-called box formation where all units are so installed that one operator can operate the entire line. This is very compact, each unit being close enough to other units so that one operator can observe and get to them without traveling a long distance.

Cartons coming off the line will go down through the floor to be cased on automatic casing equipment on the floor below. The plan for carton supply is to feed them from the floor above to each line by means of an elevator system. This leaves the packing floor clear of all containers and carton storage and makes for a more clean, streamlined operation.

A well-organized Packaging Department is needed to operate and control a high-speed packaging set-up. A very competent Packaging Department superintendent should head up the department. A packaging foreman should be under his direction and should be responsible for all phases of the operation. It is important to have an inspector to check the quality of the package as it moves from unit to unit. The employees assigned to operate high-speed packaging equipment should be put through a thorough training period. Much of the success of a high-speed operation depends upon the operators.

To get and maintain maximum production from high-speed equipment it is imperative that it be kept in A-1 shape at all times. This type of equipment is intricate, and poor adjustment, worn parts which effect timing, will cause reduction in performance. It is of prime importance that a well-manned and efficient maintenance department be set up. It takes several years to train a good packaging machinery mechanic so it is well to have men in training at all times to fill vacancies. A minimum of one mechanic



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for each three lines in operation for each eight hour shift is recommended. Shift mechanics are more or less trouble-shooters and their main objective is to make adjustments and whatever repair work is necessary to keep lines running.

The best procedure for keeping equipment in excellent shape is to have either a set overhaul period for each line or to have spare units which can be used as replacements during overhaul periods. The length of time between overhaul periods is determined by the number of hours each unit is in operation. Overhaul work should be done by the day mechanics usually used on major jobs.

To maintain maximum production, packaging lines must be kept running and some signal system must be set up to notify the mechanic when a line is down so that he can get to the job quickly. One method is to have a red light, which can be easily seen from all sections of the department, over each line. When an operator is having difficulty, he or she presses a button which not only turns on the light but also sets off a horn.

A machine shop and well-stocked parts rooms should be available, and located preferably on the packaging floor proper. If these two departments are too far from the packing floor, much time will be lost going to and from the lines.

A good lubricating program is a 'must'. Lack of grease and oil will run a machine down fast. It is not a good policy to set up your own specifications for lubricants; these can be obtained from the manufacturer of the equipment. One person should be responsible for the lubricating of all packaging equipment. There are a thousand and one working parts on most high-speed equipment, and to do a thorough job, a man must know every point requiring grease and oil.

In recent years the automatic or centralized lubricating system has come into the picture. The centralized lubricating system effects economy in the labor of oiling and in the amount of lubricant used. It also reduces accident risks and downtime on the line. Of greatest importance is the fact that it prevents the possibility of neglect of any isolated bearing. This system can be adapted to any type high-speed line.

Adhesives are equally important. In a high-speed operation where lines are running upwards of 60 per minute, adhesives play a major part in answering the question, "How much production can be obtained from this line?" The machine manufacturer and reputable adhesive firms are more than willing to work with you on adhesive problems.

As with lubrication, the job of making up the adhesive in your plant should be assigned to one person. This is especially important when you are using several different adhesives for different cartons, containers, labels, etc. The blending to the right consistencies is so important that if this operation is taken lightly, you will be plagued with not only lost productivity but also poor sealing of flaps which will cause complaints from the storekeepers and the consumers. When large quantities of adhesive are used, tank storage with piping system to each unit in a line, is advisable. A few of the larger adhesive companies are now offering certain types of adhesives in powder or granular form. When large quantities are used, there are definite advantages in purchasing in this form.

The control of atmospheric conditions on the packing floor presents many advantages from an operating standpoint. High moisture content alters operating characteristics of cartons by softening the board and causing jams in packaging. Wax coating on liner paper is softened, causing jams and accumulation of wax on machine parts which must be cleaned at short intervals. This results in

downtime, lost productivity, and a high percentage of poor liners. Frequent machinery shutdowns due to these causes cut operating time and consequently, production. Improved employee morale, increased labor productivity and decreased absenteeism are attained. Overusage of packaging material is excessive during hot, humid periods.

The importance of high-quality cartons cannot be over-emphasized. On high-speed equipment, variations in size, weight, caliper, etc. or defects, can cause a tremendous reduction in production. We must insist that the suppliers furnish high quality cartons. Before we can expect our vendors to meet our demands we must know what we want and the variations we can allow in order to maintain our desired production rate.

Through study and testing, we are now in the process of setting up specification sheets covering the lay-out of cartons and shells. The board and finish are specified as well as caliper and printing. In addition, laboratory tests and records indicate acceptable averages and ranges on such factors as basis weight, mullen, stiffness, tear, and scoreline break.

As shipments of cartons and shells are received, seven cases or about one hour's run, are selected at random as the car is unloaded. These cases are taken to the packing floor and allowed to become equalized in temperature and packing floor conditions. Then each case is opened and all cartons and shells counted; they are then examined for defects, such as torn flaps, ruptured board, inadequately glued seams, warped cartons, ink smears, printing, and foreign material. The seven cases are then run through the packaging line and all carton jams and downtime, if due to cartons, are noted. This machine run has at times pointed out conditions which have made it necessary to sort entire cases of cartons and shells to avoid production losses on the packing floor. The supplier in such instance is called in or the lot is returned to the supplier. This method of testing has resulted in some suppliers setting up similar programs in their own plants, which makes it possible for them to check and catch poor shipments before leaving their plants.

In the plant laboratories, one carton from each of the seven cases is tested for caliper, basic weight, unit weight, scoreline break, size, odor, and printing. At scheduled times, samples of each type carton and shell from each supplier undergo complete physical testing, including odor absorption.

The importance of good weighing is sometimes overlooked. Large variations in weights can lead to legal complications and consumer dissatisfaction. If overweighting becomes a habit, thousands of dollars in product can be given away each year. It is imperative that some control system be used.

No package filling machine has yet been designed

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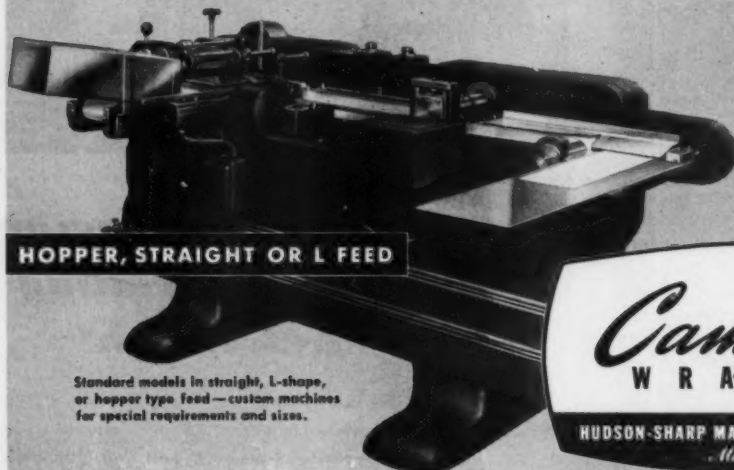
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Wraps products of all shapes — round, oval, tubular, oblong, irregular, beveled sides, and flat.

which will put exactly the same quantity of material into each package. Consequently, there is variation in the weights of products delivered by net and gross weight fillers to the packages. This variation is inherent to the process. The objective is to center this pattern of variation and keep it centered so that the desired Average Weight is consistently obtained with a minimum of variation.

Statistical Quality Control techniques have been employed to assist in reaching the objective. To control weights there are two statistical quality control tools usually used in this type of problem, namely, control charts for averages, and control charts for ranges. The former is used to give a desired average weight and the latter to control process variation. Because conscientious operators may tend to over-adjust scales on fillers and those not so conscientious may not make adjustments when needed, it is well to have a procedure to tell them when adjustments are necessary and when things should be left alone. The control charts do this.

For those who wish to consider the control chart method and wish to know more about the subject, the following books should be helpful: (1) A.S.T.M. Manual on Presentation of Data, price \$1.00, and (2) E. L. Grant, "Statistical Quality Control," price \$5.00.

When one purchases a high-speed packaging line he expects to run at the highest speed possible and obtain the maximum productive utilization of the equipment. On many occasions one will find that the average output is considerably less than the speed at which the line is running. If this be the case, it is then time to analyze the operation to determine or to pin-point the reason for the losses.

Recently our Industrial Engineering section made a study covering Productive Utilization. The analysis brought out some startling information. During the test, an observer-recorder was used on each of three shifts to accumulate data. Detailed analysis of data revealed the following per-line-source of lost production:

Cause of Downtime	Minutes	Total	Daily % of Losses @ 60/Min.	
			Packages	
1. Out of Product	59	28.9	3,540	
2. Relief (Excess)	39	19.1	2,340	
3. Miscellaneous*	23	11.3	1,380	
4. Bottom Sealer	38	18.6	2,280	
5. Liner	27	13.2	1,620	
6. Other Equipment** . .	18	8.9	1,080	
		204	100.0%	12,240

*Waiting for paper man, mechanic, oiler; cleanup.

**Filler, Coupon Dropper, Top Closer.

The 204 minutes' time is equivalent to three and one-third hours per day, per line, in unscheduled downtime.

Items 1, 2, and 3 account for 59.3% of the unscheduled downtime. Their elimination would step up the average rate from 66 per minute to 69 or 70 per minute. Closer supervision and better planning will go a long way to reduce this percentage.

Items 4, 5, and 6, covering equipment, account for almost 41% of the total downtime. The 41% requires improved mechanical know-how in keeping the packaging line units in proper adjustment.

An analysis of this type will bring out the weak points in any high-speed packaging operation, and assist in setting up corrective measures.

New York AACT Chapter Elects Officers

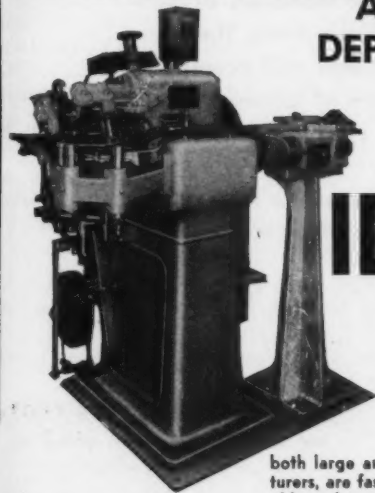
Vincent R. Ciccone, assistant works manager for Charms Company at Bloomfield, New Jersey, was elected chairman of the New York Chapter of the American Association of Candy Technologists at their meeting held February 14 in the Mary Elizabeth Restaurant, New York City. Frank McIntire of T. H. Angermeier & Company was chosen as vice-chairman, while James A. King of the Nulomoline Division of American Molasses Company agreed to serve temporarily as secretary-treasurer for the organization until the post could be filled permanently.

Program for the meeting revolved around a motion picture, Gift Of Green, which showed the growth of living plants and the place of sugar in the scheme of things. Following the picture, the meeting was thrown open for round-table discussion of sugar problems with a panel of experts from the sugar industry as buffer for the questions. John B. Adams, Jr., and Henry Helsher represented the National Sugar Refining Company, and Edward Meeker, the American.

Hans F. Dresel of Felton Chemical Company and chairman of the Fifth Annual Production Conference being held by the Pennsylvania Manufacturing Confectioners' Association at Lehigh University April 26-27, attended the New York Chapter meeting to talk of the pending conference.

Hoyt Lucas, consultant and retiring chairman of the chapter, presided for the meeting which was attended by about forty persons.

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Conventions -- Meetings

- March 1-2—Western Manufacturers annual meeting. Fairmont Hotel, San Francisco.
- March 27-29—Dairy Manufacturers' Conference, University of Wisconsin, College of Agriculture, Madison, Wis.
- April 2-5—National Premium Buyers Exposition, Stevens Hotel, Chicago.
- April 3-4—Point of Purchase Advertising Institute, Waldorf-Astoria, New York.
- April 16—Packaging Machinery Manufacturers Institute semi-annual meeting, Hotel Dennis, Atlantic City.
- April 17-20, 1951—Packaging Conference, American Management Association, Auditorium, Atlantic City, N. J.
- April 26-27—Fifth Annual Production Conference, The Pennsylvania Manufacturing Confectioners' Assn. Lehigh University, Lehigh, Penna.
- April 30-May 4—American Material Handling Society, International Amphitheatre, Chicago.
- May 1-3—American Oil Chemists' Society, Hotel Roosevelt, New Orleans.
- June 3-6—National Confectioners' Association convention, Stevens Hotel, Chicago.
- June 3-6—Associated Retail Confectioners of the U. S., Drake Hotel, Chicago.
- June 7-9—National Candy Wholesalers Association Convention, Palmer House, Chicago.
- June 17—Institute of Food Technologists Meeting, New York City.
- June 22-24—Boston Confectionery Salesmens Club, Wentworth By the Sea, Portsmouth, N. H.
- Oct. 8-10—American Oil Chemists Society, Edgewater Beach Hotel, Chicago.
- Nov. 12-15—National Automatic Merchandising Assn., Public Auditorium, Cleveland.

• **Package Machinery Company**, Springfield, Mass. have announced the new Forgrove Model 22-B machine. The machine is used for high-speed, low cost wrapping, requiring one operator. It wraps from 120 to 150 pieces a minute, handles soft-center pieces as well as hard candy in various shapes.

• **Triangle Package Machinery Co.**, Chicago, has announced the appointment of Walter P. Muskat in charge of sales and service scheduling in their new eastern sales office in New York City. Mr. Muskat was formerly district manager of the central mid-Atlantic states territory.

• **Packaging Conference** will explain the packaging requirements of the armed forces at their forthcoming meeting in Atlantic City, April 17-19. Speakers from the armed forces will take part in the sessions.

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CHOCOLATE BAR MOULDING MACHINE

Completely automatic unit for depositing, cooling and demoulding solid chocolate. Made for small bars and 10-lb. cakes.



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3260 W. GRAND AVE., CHICAGO 51



This new display workshop is used to

Test Candy Displays at Walgreens

Helps to assure more effective installations at all stores

Walgreen Drug Stores' new Display Department, recently constructed in Chicago, has been termed the best equipped, most modern workshop of any retail drug display department in the country. It has complete facilities for developing store interior and window displays plus other merchandising ideas.

Key purpose of the department is to enable displays to be erected and tested under conditions approximating those met in actual store operations. In line with this, the main display workshop is illuminated with fluorescent lighting and is equipped with every other detail of the modern Walgreen Drug Store, even to a glass entrance. Thus, everything from a new candy counter to a complete Christmas campaign can be developed to its full effectiveness.

When displays are completed and receive Company approval, staffers diagram and take pictures of them in providing guides for their installation in Walgreen stores.

Besides a variety of merchandise islands, three full-size departments, show cases and wall shelving, there are twenty-two full-size display win-

dows in which presentations can be tested and approved from a street traffic view point.

Efficiency and convenience highlight the workshop. Fixtures, mounted on casters, can be easily rolled to any position and showcases have glassless fronts allowing trimmers easy access. According to C. W. Mulaney, Director of Merchandising for the firm, this new display department has already proven successful in facilitating the installation of merchandising displays of proven effectiveness in all of the company's stores throughout the country.

Candy Clinic

(Continued from page 42)

Code 3K51
Chocolate Coated Assorted Buttercreams

1 lb.—No price stated

Sent in for analysis #4707.

Appearance of package: Good.

Box: One layer type, embossed silver paper top, name embossed in dark

red. White paper wrapper, overall print of name in dark red. Tied with a purple grass ribbon.

Appearance of box on opening: See remarks.

Number of pieces: 37.

Coating: Dark.

Color: Good.

Gloss: Good.

Strings: Fair.

Taste: Good.

Centers:

Vanilla buttercream: Good.

Assortment: See remarks.

Remarks: One of the best vanilla buttercreams we have examined recently.

Suggest a divider or two be used to keep pieces in place. Six pieces were broken and were partly dry.

The consumer as a rule expects a fair assortment in a pound box of chocolates. We suggest at least six different centers be added . . . raspberry, orange, chocolate, nut creams, lemon, pineapple, etc. We doubt if this box would be a good seller unless the assortment were improved. Suggest a retail price of \$1.25 the pound.

Brokers . . .

For new candy lines, list your firm in the Confectionery Brokers' Section of THE MANUFACTURING CONFECTIONER and THE CANDY BUYERS' DIRECTORY. Low rate is only \$15 a year.

For complete details on this year 'round business-booster service, write or wire:

THE MANUFACTURING CONFECTIONER

9 S. Clinton—CHICAGO 6



THE MANUFACTURING CONFECTIONER

Candy Production:

Methods and

Formulas—

a big 640-page book of candy "know how"

CANDY PRODUCTION: METHODS AND FORMULAS, is a big, 640-page, extra-helpful book designed to give practical "know-how" answers to problems of candy manufacture. Walter L. Richmond, the author, is superintendent for Garrott Candy Company and for Jane Garrott Candies, Inc., of St. Paul, Minn.

In **CANDY PRODUCTION: METHODS AND FORMULAS**, Mr. Richmond describes fully the three basic operations for good candy manufacture: (1) Ingredients and Cooking Actions, (2) Mixing, Casting, Coating, Etc., (3) Trouble Shooting. Mr. Richmond tells *both* the reasons and the methods of operation. In addition, he provides carefully selected formulas for both the wholesale and the retail trade.

Whether you have a large plant or a small one, **CANDY PRODUCTION: METHODS AND FORMULAS** will prove a valuable asset to your firm. Mr. Richmond's book has 30 helpful chapters, as shown in the accompanying contents table. Its 640 pages contain 500 candy formulas and detailed production information on candies. For quick, convenient reference, a numbered list of the book's 500 formulas—grouped also under 32 main candy classifications—is provided. A comprehensive index and large diagrams showing both how to decorate Easter eggs and how to insert fruit and nuts in the centers are still additional features. Designed specifically as a production man's text, Mr. Richmond's helpful book also provides generous space alongside the formulas for notes during actual production in the candy plant.

CANDY PRODUCTION: METHODS AND FORMULAS is now ready for prompt shipment. Price is \$10. Use the handy coupon below.

BOOK ORDER

The Manufacturing Confectioner Pub. Co.
9 S. Clinton Street,
Chicago 6, Ill.

Please send me Mr. Richmond's new helpful book **CANDY PRODUCTION: METHODS AND FORMULAS** which contains 500 candy formulas. I am enclosing \$10.00.

Name Position

Company

Street

City Zone State M360

USE THIS ORDER FORM

.....Date

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Complete coverage of Montana, Idaho, and northern Wyoming, including Casper

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Marshmallow Research Foundation. Shown planning activities are, seated, left to right: W. B. Riley, Brock Candy Co.; E. H. Edwards, Curtiss Candy Co.; Paul D. Allman, The Cracker Jack Co., and J. E. Long, Shotwell Mfg. Co.; standing, Theodore R. Sills, public relations, K. E. Madden, Candyland, Inc., Elinor Ehrman public relations, Nathan Cohen, Candyland, Inc. Paul Flum, Shotwell Mfg. Co. (For story see page 48).

• N. H. Marshall, formerly manager of the California Fruit Chimes Company and later representing Mission Chimes Candy Company of San Gabriel, California, announces the has joined the Harold Brokerage & Supply Company devoting his full time between Los Angeles, San Francisco, Phoenix, and Tucson on sales development.

Harold Brokerage & Supply Company covers the various military, Naval, Air Force and industrial implant feeding operations throughout the eleven western states, and specializes in candies, confections, ice cream and food products.



• Morry A. Lieberman has recently been appointed sales manager for Consolidated Tobacco Company, Chicago, according to Jerome A. Drell, President, and Maurice R. Tunick, vice-president.

Beginning as a pharmacist in his own drug store operation, Mr. Lieberman has had a long and varied career in both wholesale and retail tobacco, as well as the drug business. From his start as pharmacist in his own drug stores, he took over the cigar stand concessions in the Buck & Rayner drug stores.

In 1924 he returned to the operation of two of his own drug stores, and in 1929 joined the Sam Cassel Company as sales manager. In 1946, he became sales manager for the Washington Pipe and Novelty Company, but in February of 1950 returned to the Cassel organization. With the recent acquisition by Consolidated of the Sam Cassel Company, Mr. Lieberman became sales manager.



The MANUFACTURING CONFECTIONER'S

Clearing House



HELP WANTED

CANDY PLANT DEPT. MANAGER

Wanted:

Los Angeles plant of national food concern has opening for a high caliber man to manage Cream and Gum Dept. He will be responsible for all operations, including production, sanitation, quality control, maintenance, training and supervision. Must have experience as foreman, assistant foreman or candy maker in Cream and Gum Dept. of large candy factory. Permanent position with appropriate salary. Reply in confidence, stating age, education, earnings and full details of experience.

**The MANUFACTURING
CONFECTIONER**
Box A-3111

POSITION WANTED

OPEN FOR A JOB by a practical candy maker having had 35 years of practical experience as candy maker, foreman, superintendent, in hard candies, creams, gums, jellies, marshmallows, all kinds of pan work, counter goods, fudges, nougats, caramels running enrobers, package goods, bulk, penny goods, and bar goods. Understand all types of machinery and how to handle it to get the best out of it. Also understand how to handle help, and all of the problems of today. Formerly was superintendent for one of the largest houses in America. Would like to connect with some good modern firm that is progressive and wants new items and new ideas. Not as interested in salary as I am in connecting with the right firm. I would prefer working on a profit-sharing plan. My age is 48. Box A-312, **The MANUFACTURING CONFECTIONER**.

WANTS A JOB—I am a practical candy maker in hard candies, creams, gums, jellies, marshmallows, pan work, all kinds of retail work and counter goods, and can operate enrobers. Having had over 30 years experience in the above. I understand all modern machinery, costs and how to handle help to the best advantage. Interested in a modern plant where one may develop new ideas. My age is 48. Box A-315, **The MANUFACTURING CONFECTIONER**.

CLASSIFIED

When addressing box numbers, please address as follows:

(Box Number)

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Chicago 6, Ill.

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Classified insertion requests are sent to the same address. Rates are 35c per line of regular type; 70c per line for bold face or capital letters; \$6 per column inch for display. Minimum insertion is three lines. Rates are not subject to agency discounts.

POSITIONS WANTED (Contd.)

FIRST CLASS COCOA, chocolate, and Confectionery expert and production manager, 26 years technical and managerial experience in continental factories and at present with world known English firm, seeks a position in U.S.A. as factory manager. Has thorough knowledge of all varieties of processes of manufacturing cocoa, chocolate, general confectionery, high-class German and French assortments, Swiss couvertures and Dutch cocoas. Box B-211, **The MANUFACTURING CONFECTIONER**.

MACHINERY FOR SALE

FOR SALE: 2—Friend laboratory-type Hand Roll Machines. Attractively priced. Box A-313, **The MANUFACTURING CONFECTIONER**.

FOR SALE: 2—new type fan-tail wrap Package Machinery Model K Kiss Wrappers. Reasonably priced. Box A-318, **The MANUFACTURING CONFECTIONER**.

FOR SALE: Simplex gas fired vacuum cooker, \$1300.00; Specialty Appliances 1-bag nut roaster with 2 baskets, \$250.00; 40 pound pulling machine, \$125.00. This equipment is in perfect working condition. Prices FOB. our plant. Heighton Bros. Candy Co., Covington, Ohio.

FOR SALE: 1—complete Gaebel Hard Candy outfit with 2 chains. 1—Peerless Plastic Machine with 2 dies. 1—4 x 7 Power Fruit Drop Frame with several Rollers. 1—Racine Sucker Machine with 2 sets of fancy rollers. 1—Ideal Caramel Wrapper. 1—Savage Marshmallow Beater. All in excellent condition. Box A-3113, **The MANUFACTURING CONFECTIONER**.

FOR SALE: New Simplex double-tilt Cream Vacuum. Box A-316, **The MANUFACTURING CONFECTIONER**.

Jabez Burns Continuous Roaster 1800-pound capacity, complete with feeder. Brand new, never used. Box A-314, **The MANUFACTURING CONFECTIONER**.

Complete stock of machinery and equipment guaranteed reconditioned, for both large and small candy manufacturers. Also replacement parts for Enrobers, bottomers and Kihlgren stringers. Prompt delivery and lowest prices. **National Confectioners Machinery Co.**, 108 E. 2nd St., Cincinnati 2, Ohio. Telephone Parkway 1165.

MACHINERY FOR SALE (Contd.)

Bridge Chocolate Cake Crusher, Hansell Automatic Batch Roller and Liquid Center Feeder, also AD Wood Mogul complete and in good working order. All available immediately. Box A-317, **The MANUFACTURING CONFECTIONER**.

MACHINERY WANTED

WANTED: Full or semi-automatic Wrapping and Sealing Machine for flush or extended edge boxes, 9 1/4" x 6" x 1 3/4" and 8 3/4" x 5 3/4" x 1 1/2". Box A-3110, **The MANUFACTURING CONFECTIONER**.

MISCELLANEOUS

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We are looking for a new product, preferably in the confection field. It could be a one, five, or ten cent seller. It should be one that can be distributed nationally. It should lend itself to high speed wrapping and packing. It should have a high volume potential.

We have the plant, equipment, labor force, engineering and management know-how, and a national sales force. Our present products are sold nationally—and are the leaders in their field.

Write us in confidence—we will let you know quickly whether we think something can be worked out.

Box No. 3112 **The MANUFACTURING CONFECTIONER**.

WE BUY & SELL

ODD LOTS • OVER RUNS • SURPLUS

"Cellophane" BAGS

SHEETS • ROLLS • SHREDDINGS

Cellophane rolls in cutler boxes 100 ft. or more

ALSO MADE OF OTHER CELLULOSE FILM

Wax - Glassine Bags, Sheets & Rolls

Tying Ribbons—All Scotch Tape

Colors & Widths Clear & Colors

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word to the wise **SAVE NOW**

IN MODERN, REBUILT GUARANTEED EQUIPMENT!



*Increase your production while you
lower your operating cost and assure
yourself a big profit year in '51*

IMMEDIATE DELIVERY

**ORDER NOW... WHILE AVAILABLE
FROM COMPLETE STOCKS OF**

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Every Type • Every Size • For Every Need

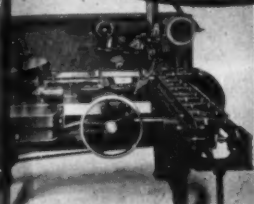
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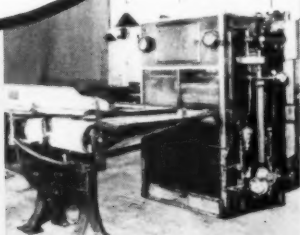
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CONFECTIONERY MACHINERY COMPANY

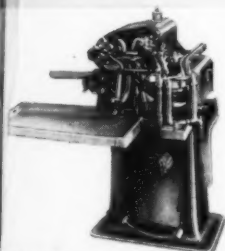
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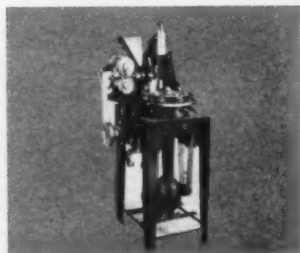
Package Machinery LP and LP 3
Sucker Wrappers



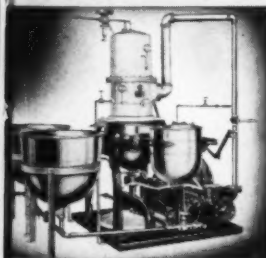
National Equipment 24" and 34" Enrober
with Automatic Feeder, Cooler, Packer



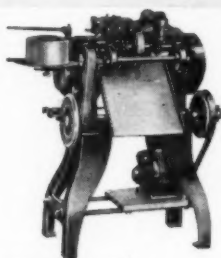
Ideal Caramel Cutter
and Wrapper



Racine Model M Die Pop Machine



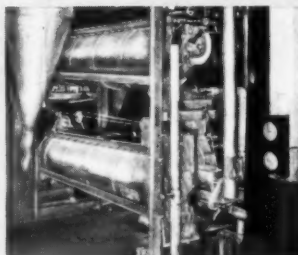
National Equipment Continuous Hard
Candy Cooker; 600 & 1000 lb. caps.



Package Machinery Company
Model K Kiss Wrapper



Simplex 2-Way Tilt, Steam
Vacuum Cream Cooker



Huhn Double Dryer and Cooler
(Also Sold Singly)



National Equipment Fully Automatic Steel Mogul

TELL US YOUR REQUIREMENTS! WRITE OR WIRE COLLECT TODAY! NO OBLIGATION!

Confectionately Yours

THE ROYAL Sanitary Institute of Burnley, England, says that the lollipop is the "weak link in public health". Children indulge in "communal sucking" by chipping in for a lollipop and then taking turns licking it. But the institute added "You'd probably have a revolution if you tried to stop the practice".

* * *

GASTON DROULEZ, a mechanic in a French chocolate factory, was remanded in court for a psychiatrist's report. He was charged with dropping nuts and bolts into the chocolate mixture.

* * *

FRED A. PICHARD, who started an exclusive mail-order house for skiers at the Sun Valley ski resort, sells white coated chocolates to the skiers which they prefer. White is the favorite color for skiers.

* * *

THE HEIGHT of service was demanded by a gunman who forced a candy clerk to empty a cash register for him. He demanded that she wrap up a box of chocolates for him.

* * *

BRITONS WILL be allowed 5½ ounces of candy a week, instead of the current ration of 5 ounces, starting February 25th.

* * *

A SWEETSHOP in South Bend, Indiana, has a solution to a Russian-American problem. Sign now reads: "Bavarian mints, formerly Russian Mints".

* * *

BEEES WERE busier this last year. They produced 233 million pounds of honey, 3% more than in 1949. Though the number of colonies remained the same, 5,600,000, output per colony rose. Wonder what the incentive was?



Advertisers' INDEX

Ambrosia Chocolate Co. 44
American Food Laboratories, Inc. Feb. '51
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